No.	Co-authors	Article title	Keywords	Vol., No., pp.	DOI	Citation
1	Ozdemir, C., Gedik, M.A., Kaya, Y.	Age Estimation from Left-Hand Radiographs with Deep Learning Methods	bone age estimation, CNN, computer-aided diagnosis, deep learning	38, 6, 1565-1574	https://doi.org/10.18280/ts.380601	Ozdemir, C., Gedik, M.A., Kaya, Y. (2021). Age estimation from left-hand radiographs with deep learning methods. Traitement du Signal, Vol. 38, No. 6, pp. 1565-1574. https://doi.org/10.18280/ts.380601
2	Ayeche, F., Alti, A.	Facial Expressions Recognition Based on Delaunay Triangulation of Landmark and Machine Learning	facial image, Delaunay triangulation, shape features, facial expressions, QDA, emotion	38, 6, 1575-1586	https://doi.org/10.18280/ts.380602	Ayeche, F., Alti, A. (2021). Facial expressions recognition based on Delaunay triangulation of landmark and machine learning. Traitement du Signal, Vol. 38, No. 6, pp. 1575-1586. https://doi.org/10.18280/ts.380602
3	Ariyapadath, S.	Plant Leaf Classification and Comparative Analysis of Combined Feature Set Using Machine Learning Techniques	plant classification, optimal feature set, GIST, local binary pattern, pyramid histogram oriented gradient, machine learning, neighbourhood component analysis, artificial neural network	38, 6, 1587-1598	https://doi.org/10.18280/ts.380603	Ariyapadath, S. (2021). Plant leaf classification and comparative analysis of combined feature set using machine learning techniques. Traitement du Signal, Vol. 38, No. 6, pp. 1587-1598. https://doi.org/10.18280/ts.380603
4	Yang, H., Zhao, Y.M., Su, G.A., Liu, X.Y., Jin, S.W., Fan, H.Y., Shang, Y.H.	Slow Feature Extraction Algorithm Based on Visual Selection Consistency Continuity and Its Application	visual invariance, visual selection consistency continuity, natural image, slow feature, Lipschitz consistency	38, 6, 1599-1611	https://doi.org/10.18280/ts.380604	Yang, H., Zhao, Y.M., Su, G.A., Liu, X.Y., Jin, S.W., Fan, H.Y., Shang, Y.H. (2021). Slow feature extraction algorithm based on visual selection consistency continuity and its application. Traitement du Signal, Vol. 38, No. 6, pp. 1599-1611. https://doi.org/10.18280/ts.380604
5	Moussa, M., Douik, A.	Synthesis and Comparison of Improved Edge Detection Technique Based on Metaheuristic and Intelligent Algorithm Optimization	edge detection, neural network, fuzzy logic, Shannon entropy, conditional entropy, joint entropy, metaheuristic algorithm	38, 6, 1613-1622	https://doi.org/10.18280/ts.380605	Moussa, M., Douik, A. (2021). Synthesis and comparison of improved edge detection technique based on metaheuristic and intelligent algorithm optimization. Traitement du Signal, Vol. 38, No. 6, pp. 1613-1622. https://doi.org/10.18280/ts.380605
6	Shoaib, M., Sayed, N.	A Deep Learning Based System for the Detection of Human Violence in Video Data	violence detection, deep learning, convolutional neural network, image classification object localization	38, 6, 1623-1635	https://doi.org/10.18280/ts.380606	Shoaib, M., Sayed, N. (2021). A deep learning based system for the detection of human violence in video data. Traitement du Signal, Vol. 38, No. 6, pp. 1623-1635. https://doi.org/10.18280/ts.380606
7	Reddy, K.T., Reddy, S.N.	An Improved Medical Image Watermarking Technique Based on Weber's Law Descriptors	watermarking, embedding capacity, medical image, blind watermarking, Weber's Local Descriptor (WLD), Arnold chaotic map	38, 6, 1637-1646	https://doi.org/10.18280/ts.380607	Reddy, K.T., Reddy, S.N. (2021). An improved medical image watermarking technique based on Weber's law descriptors. Traitement du Signal, Vol. 38, No. 6, pp. 1637-1646. https://doi.org/10.18280/ts.380607
8	Bi, Q.L., Lai, M.L., Tang, H.L., Guo, Y.Y., Li, J.Y., Zeng, X.H., Liu, Z.J.	Precise Inspection of Geometric Parameters for Polyvinyl Chloride Pipe Section Based on Computer Vision	polyvinyl chloride (PVC) pipe, geometric parameters, visual inspection, region of interest (ROI), edge operator	38, 6, 1647-1655	https://doi.org/10.18280/ts.380608	Bi, Q.L., Lai, M.L., Tang, H.L., Guo, Y.Y., Li, J.Y., Zeng, X.H., Liu, Z.J. (2021). Precise inspection of geometric parameters for polyvinyl chloride pipe section based on computer vision. Traitement du Signal, Vol. 38, No. 6, pp. 1647-1655. https://doi.org/10.18280/ts.380608
9	Wagle, S.A., R, H., Sampe, J., Mohammad, F., Md Ali, S.H.	Effect of Data Augmentation in the Classification and Validation of Tomato Plant Disease with Deep Learning Methods	classification, data augmentation, ResNet models, validation	38, 6, 1657-1670	https://doi.org/10.18280/ts.380609	Wagle, S.A., R, H., Sampe, J., Mohammad, F., Md Ali, S.H. (2021). Effect of data augmentation in the classification and validation of tomato plant disease with deep learning methods. Traitement du Signal, Vol. 38, No. 6, pp. 1657-1670. https://doi.org/10.18280/ts.380609
10	Elaraby, A., Taha, A.	A Framework for Cross-Modality Guided Contrast Enhancement of CT Liver Using MRI	medical image, multimodal, image enhancement, liver, CT, MRI	38, 6, 1671-1675	https://doi.org/10.18280/ts.380610	Elaraby, A., Taha, A. (2021). A framework for cross-modality guided contrast enhancement of CT liver using MRI. Traitement du Signal, Vol. 38, No. 6, pp. 1671-1675. https://doi.org/10.18280/ts.380610
11	Liu, C., Yang, J., Zhang, Y.N., Zhang, X., Zhao, W.N., Miao, F.J., Shao, Y.K.	Non-Global Privacy Protection Facing Sensitive Areas in Face Images	differential privacy, interactive framework, non-globality, landmark positioning, regional growth	38, 6, 1677-1687	https://doi.org/10.18280/ts.380611	Liu, C., Yang, J., Zhang, Y.N., Zhang, X., Zhao, W.N., Miao, F.J., Shao, Y.K. (2021). Non-global privacy protection facing sensitive areas in face images. Traitement du Signal, Vol. 38, No. 6, pp. 1677-1687. https://doi.org/10.18280/ts.380611
12	Toraman, S., Dursun, Ö.O.	GameEmo-CapsNet: Emotion Recognition from Single-Channel EEG Signals Using the 1D Capsule Networks	emotion estimation, EEG, fusion, deep learning, capsule networks	38, 6, 1689-1698	https://doi.org/10.18280/ts.380612	Toraman, S., Dursun, Ö.O. (2021). GameEmo-CapsNet: Emotion recognition from single-channel EEG signals using the 1D capsule networks. Traitement du Signal, Vol. 38, No. 6, pp. 1689-1698. https://doi.org/10.18280/ts.380612
13	Tiwari, D., Dixit, M., Gupta, K.	Deep Multi-View Breast Cancer Detection: A Multi-View Concatenated Infrared Thermal Images Based Breast Cancer Detection System Using Deep Transfer Learning	thermal infrared images, multi-view, breast cancer, VGG16, VGG19, ResNet50, Inception Net, augmentation	38, 6, 1699-1711	https://doi.org/10.18280/ts.380613	Tiwari, D., Dixit, M., Gupta, K. (2021). Deep multi-view breast cancer detection: A multi-view concatenated infrared thermal images based breast cancer detection system using deep transfer learning. Traitement du Signal, Vol. 38, No. 6, pp. 1699-1711. https://doi.org/10.18280/ts.380613
14	Manda, M.P., Hyun, D.	Double Thresholding with Sine Entropy for Thermal Image Segmentation	image segmentation, thermal images, long-range correlations, sine entropy, double thresholding	38, 6, 1713-1718	https://doi.org/10.18280/ts.380614	Manda, M.P., Hyun, D. (2021). Double thresholding with sine entropy for thermal image segmentation. Traitement du Signal, Vol. 38, No. 6, pp. 1713-1718. https://doi.org/10.18280/ts.380614
15	Zhu, T.B., Wang, D., Li, Y.H., Dong, W.J.	Three-Dimensional Image Reconstruction for Virtual Talent Training Scene	virtual training, three-dimensional (3D) image, image reconstruction	38, 6, 1719-1726	https://doi.org/10.18280/ts.380615	Zhu, T.B., Wang, D., Li, Y.H., Dong, W.J. (2021). Three-dimensional image reconstruction for virtual talent training scene. Traitement du Signal, Vol. 38, No. 6, pp. 1719-1726. https://doi.org/10.18280/ts.380615
16	Vamsi, B., Bhattacharyya, D., Midhunchakkravarthy, D., Kim, J.	Early Detection of Hemorrhagic Stroke Using a Lightweight Deep Learning Neural Network Model	Convolution Neural Network (CNN), computed tomographic, deep learning, hemorrhagic stroke, light weight model, medical image segmentation	38, 6, 1727-1736	https://doi.org/10.18280/ts.380616	Vamsi, B., Bhattacharyya, D., Midhunchakkravarthy, D., Kim, J. (2021). Early detection of hemorrhagic stroke using a lightweight deep learning neural network model. Traitement du Signal, Vol. 38, No. 6, pp. 1727-1736. https://doi.org/10.18280/ts.380616
17	Ben Slama, A., Sahli, H., Maalmi, R., Trabelsi, H.	ConvNet: 1D-Convolutional Neural Networks for Cardiac Arrhythmia Recognition Using ECG Signals	cardiac arrhythmia disease, ECG data, QRS complex signals, classification, conventional neural network	38, 6, 1737-1745	https://doi.org/10.18280/ts.380617	Ben Slama, A., Sahli, H., Maalmi, R., Trabelsi, H. (2021). ConvNet: 1D-convolutional neural networks for cardiac arrhythmia recognition using ECG signals. Traitement du Signal, Vol. 38, No. 6, pp. 1737-1745. https://doi.org/10.18280/ts.380617
18	Zhang, Q., Lu, S., Liu, L., Liu, Y., Zhang, J., Shi, D.Y.	Color Enhancement of Low Illumination Garden Landscape Images	low illumination, garden landscape images (GLIs), color enhancement, convolutional neural network (CNN)	38, 6, 1747-1754	https://doi.org/10.18280/ts.380618	Zhang, Q., Lu, S., Liu, L., Liu, Y., Zhang, J., Shi, D.Y. (2021). Color enhancement of low illumination garden landscape images. Traitement du Signal, Vol. 38, No. 6, pp. 1747-1754. https://doi.org/10.18280/ts.380618
19	Upadhyay, S.K., Kumar, A.	Early-Stage Brown Spot Disease Recognition in Paddy Using Image Processing and Deep Learning Techniques	brown spot, disease recognition, rice, plants, CNN, infection severity	38, 6, 1755-1766	https://doi.org/10.18280/ts.380619	Upadhyay, S.K., Kumar, A. (2021). Early-stage brown spot disease recognition in paddy using image processing and deep learning techniques. Traitement du Signal, Vol. 38, No. 6, pp. 1755-1766. https://doi.org/10.18280/ts.380619

20	Korkmaz, O.E., Aydemir, O., Oral, E.A., Ozbek, I.Y.	Investigating the Effect of COVID-19 Infection on P300 Based BCI Application Performance	COVID-19, brain computer interface, event related potentials, P300, classification, EEG	38, 6, 1767-1773	https://doi.org/10.18280/ts.380620	Korkmaz, O.E., Aydemir, O., Oral, E.A., Ozbek, I.Y. (2021). Investigating the effect of COVID-19 infection on P300 based BCI application performance. Traitement du Signal, Vol. 38, No. 6, pp. 1767-1773. https://doi.org/10.18280/ts.380620
21	Jiang, N.	Image Segmentation for Review of Cerebral Apoplexy	cerebral apoplexy, review, image segmentation, lesion change features	38, 6, 1775-1782	https://doi.org/10.18280/ts.380621	Jiang, N. (2021). Image segmentation for review of cerebral apoplexy. Traitement du Signal, Vol. 38, No. 6, pp. 1775-1782. https://doi.org/10.18280/ts.380621
22	Arshaghi, A., Ashourin, M., Ghabeli, L.	Detection and Classification of Potato Diseases Potato Using a New Convolution Neural Network Architecture	convolutional neural networks, deep learning, defect detection, potato diseases	38, 6, 1783-1791	https://doi.org/10.18280/ts.380622	Arshaghi, A., Ashourin, M., Ghabeli, L. (2021). Detection and classification of potato diseases potato using a new convolution neural network architecture. Traitement du Signal, Vol. 38, No. 6, pp. 1783-1791. https://doi.org/10.18280/ts.380622
23	Satla, S., Manchala, S.	Dialect Identification in Telugu Language Speech Utterance Using Modified Features with Deep Neural Network	DNN, Telugu language, dialects, multilayer perceptron, HMM, GMM, MFCC	38, 6, 1793-1799	https://doi.org/10.18280/ts.380623	Satla, S., Manchala, S. (2021). Dialect identification in Telugu language speech utterance using modified features with deep neural network. Traitement du Signal, Vol. 38, No. 6, pp. 1793-1799. https://doi.org/10.18280/ts.380623
24	Wu, S.J.	Image Recognition of Standard Actions in Sports Videos Based on Feature Fusion	sports, action recognition, local feature extraction, time-space feature fusion	38, 6, 1801-1807	https://doi.org/10.18280/ts.380624	Wu, S.J. (2021). Image recognition of standard actions in sports videos based on feature fusion. Traitement du Signal, Vol. 38, No. 6, pp. 1801-1807. https://doi.org/10.18280/ts.380624
25	Yechuri, P.K., Ramadass, S.	Classification of Image and Text Data Using Deep Learning-Based LSTM Model	LSTM, IMDB, Sentiment Analysis (SA), Natural Language Processing (NLP)	38, 6, 1809-1817	https://doi.org/10.18280/ts.380625	Yechuri, P.K., Ramadass, S. (2021). Classification of image and text data using deep learning-based LSTM model. Traitement du Signal, Vol. 38, No. 6, pp. 1809-1817. https://doi.org/10.18280/ts.380625
26	Wu, J.D., Hsieh, C.Y., Luo, W.J.	Sound Visualization and Convolutional Neural Network in Fault Diagnosis of Electric Motorbike	fault diagnosis, convolutional neural network, sound visualization, spectrogram picture recognition, electric motorbike	38, 6, 1819-1827	https://doi.org/10.18280/ts.380626	Wu, J.D., Hsieh, C.Y., Luo, W.J. (2021). Sound visualization and convolutional neural network in fault diagnosis of electric motorbike. Traitement du Signal, Vol. 38, No. 6, pp. 1819-1827. https://doi.org/10.18280/ts.380626
27	Zou, J., Zhang, C., Ma, Z.J., Yu, L., Sun, K.W., Liu, T.F.	Image Feature Analysis and Dynamic Measurement of Plantar Pressure Based on Fusion Feature Extraction	fusion feature extraction, plantar pressure, feature analysis, dynamic parameter measurement	38, 6, 1829-1835	https://doi.org/10.18280/ts.380627	Zou, J., Zhang, C., Ma, Z.J., Yu, L., Sun, K.W., Liu, T.F. (2021). Image feature analysis and dynamic measurement of plantar pressure based on fusion feature extraction. Traitement du Signal, Vol. 38, No. 6, pp. 1829-1835. https://doi.org/10.18280/ts.380627
28	Kumar, M.S., Rao, K.V., Kumar, G.A.	MRI Image Based Classification Model for Lung Tumor Detection Using Convolutional Neural Networks	lung tumor, pre-processing, feature selection, classification, tumor detection, machine learning	38, 6, 1837-1842	https://doi.org/10.18280/ts.380628	Kumar, M.S., Rao, K.V., Kumar, G.A. (2021). MRI image based classification model for lung tumor detection using convolutional neural networks. Traitement du Signal, Vol. 38, No. 6, pp. 1837-1842. https://doi.org/10.18280/ts.380628
29	Soltani, O., Benabdelkader, S.	Euclidean Distance Versus Manhattan Distance for New Representative SFA Skin Samples for Human Skin Segmentation	face detection, skin segmentation, skin samples, Euclidean distance, Manhattan distance	38, 6, 1843-1851	https://doi.org/10.18280/ts.380629	Soltani, O., Benabdelkader, S. (2021). Euclidean distance versus Manhattan distance for new representative SFA skin samples for human skin segmentation. Traitement du Signal, Vol. 38, No. 6, pp. 1843-1851. https://doi.org/10.18280/ts.380629
30	Chen, W., Zheng, X., Zhou, H.J., Li, Z.	Evaluation of Logistics Service Quality: Sentiment Analysis of Comment Text Based on Multi-Level Graph Neural Network	logistics service quality, text sentiment analysis, attention mechanism, multi-level graph neural network (MLGNN)	38, 6, 1853-1860	https://doi.org/10.18280/ts.380630	Chen, W., Zheng, X., Zhou, H.J., Li, Z. (2021). Evaluation of logistics service quality: Sentiment analysis of comment text based on multi-level graph neural network. Traitement du Signal, Vol. 38, No. 6, pp. 1853-1860. https://doi.org/10.18280/ts.380630
31	Raghu, K., Sadanandam, M.	A Perspective Study on Speech Emotion Recognition: Databases, Features and Classification Models	ASR, HCI, SER, Telugu emotional speech, acoustic, SVM, MLP, CNN	38, 6, 1861-1873	https://doi.org/10.18280/ts.380631	Raghu, K., Sadanandam, M. (2021). A perspective study on speech emotion recognition: Databases, features and classification models. Traitement du Signal, Vol. 38, No. 6, pp. 1861-1873. https://doi.org/10.18280/ts.380631
32	Jayaswal, R., Dixit, M.	Detection of Hidden Facial Surface Masking in Stored and Real Time Captured Images: A Deep Learning Perspective in Covid Time	COVID-19, face mask detection, DNN models, optimizers, CLAHE-SSD_IV3 model, RTFMD dataset	38, 6, 1875-1885	https://doi.org/10.18280/ts.380632	Jayaswal, R., Dixit, M. (2021). Detection of hidden facial surface masking in stored and real time captured images: A deep learning perspective in COVID time. Traitement du Signal, Vol. 38, No. 6, pp. 1875-1885. https://doi.org/10.18280/ts.380632
33	Zhang, C., Zou, J., Ma, Z.J., Wu, Q., Sheng, Z.G., Yan, Z.	Upper Limb Action Identification Based on Physiological Signals and Its Application in Limb Rehabilitation Training	physiological signals, upper limb motor function, upper limb action identification, limb rehabilitation	38, 6, 1887-1894	https://doi.org/10.18280/ts.380633	Zhang, C., Zou, J., Ma, Z.J., Wu, Q., Sheng, Z.G., Yan, Z. (2021). Upper limb action identification based on physiological signals and its application in limb rehabilitation training. Traitement du Signal, Vol. 38, No. 6, pp. 1887-1894. https://doi.org/10.18280/ts.380633
34	Rashid, M., Mustafa, M., Sulaiman, N., Abdullah, N.R.H., Samad, R.	Random Subspace K-NN Based Ensemble Classifier for Driver Fatigue Detection Utilizing Selected EEG Channels	electroencephalogram (EEG), driver fatigue, channel selection, ensemble classifier, correlation coefficient, random subspace k-NN	38, 5, 1259-1270	https://doi.org/10.18280/ts.380501	Rashid, M., Mustafa, M., Sulaiman, N., Abdullah, N.R.H., Samad, R. (2021). Random subspace K-NN based ensemble classifier for driver fatigue detection utilizing selected EEG channels. Traitement du Signal, Vol. 38, No. 5, pp. 1259-1270. https://doi.org/10.18280/ts.380501
35	Ornek, A.H., Ceylan, M.	Explainable Artificial Intelligence (XAI): Classification of Medical Thermal Images of Neonates Using Class Activation Maps	class activation maps, deep learning, explainable artificial intelligence, medicine, neonates, thermography, visualization	38, 5, 1271-1279	https://doi.org/10.18280/ts.380502	Ornek, A.H., Ceylan, M. (2021). Explainable artificial intelligence (XAI): Classification of medical thermal images of neonates using class activation maps. Traitement du Signal, Vol. 38, No. 5, pp. 1271-1279. https://doi.org/10.18280/ts.380502
36	Obeidat, Y., Alqudah, A.M.	A Hybrid Lightweight 1D CNN-LSTM Architecture for Automated ECG Beat-Wise Classification	convolutional neural network (CNN), electrocardiogram (ECG), long short-term memory (LSTM), deep learning (DL), classification, arrhythmia, cardiovascular disease (CVD)	38, 5, 1281-1291	https://doi.org/10.18280/ts.380503	Obeidat, Y., Alqudah, A.M. (2021). A hybrid lightweight 1D CNN-LSTM architecture for automated ECG beat-wise classification. Traitement du Signal, Vol. 38, No. 5, pp. 1281-1291. https://doi.org/10.18280/ts.380503
37	Hamdini, R., Diffellah, N., Namane, A.	Color Based Object Categorization Using Histograms of Oriented Hue and Saturation	categorization, descriptor, HOG, HSL, KNN, recognition, robots, SVM	38, 5, 1293-1307	https://doi.org/10.18280/ts.380504	Hamdini, R., Diffellah, N., Namane, A. (2021). Color based object categorization using histograms of oriented hue and saturation. Traitement du Signal, Vol. 38, No. 5, pp. 1293-1307. https://doi.org/10.18280/ts.380504
38	Zhao, J., Feng, Q.J.	Deep Att-ResGAN: A Retinal Vessel Segmentation Network for Color Fundus Images	retinal vessel segmentation, generative adversarial networks (GANs), attention module	38, 5, 1309-1317	https://doi.org/10.18280/ts.380505	Zhao, J., Feng, Q.J. (2021). Deep Att-ResGAN: A retinal vessel segmentation network for color fundus images. Traitement du Signal, Vol. 38, No. 5, pp. 1309-1317. https://doi.org/10.18280/ts.380505
39	Nogay, H.S.	Comparative Experimental Investigation of Deep Convolutional Neural Networks for Latent Fingerprint Pattern Classification	fingerprint, deep learning, transfer learning, DCNN, pattern recognition	38, 5, 1319-1326	https://doi.org/10.18280/ts.380506	Nogay, H.S. (2021). Comparative experimental investigation of deep convolutional neural networks for latent fingerprint pattern classification. Traitement du Signal, Vol. 38, No. 5, pp. 1319-1326. https://doi.org/10.18280/ts.380506

40	Banerjee, S., Singh, S.K., Chakraborty, A., Basu, S., Das, A., Bag, R.	Diagnosis of Melanoma Lesion Using Neutrosophic and Deep Learning	skin cancer, melanoma, skin lesion segmentation, Keras, deep learning, neutrosophic	38, 5, 1327-1338	https://doi.org/10.18280/ts.380507	Banerjee, S., Singh, S.K., Chakraborty, A., Basu, S., Das, A., Bag, R. (2021). Diagnosis of melanoma lesion using neutrosophic and deep learning. Traitement du Signal, Vol. 38, No. 5, pp. 1327-1338. https://doi.org/10.18280/ts.380507
41	Kabache, M., Guerti, M.	Acoustic Analysis of Voice Signal of Patients with Unilateral Laryngeal Paralysis a View to Objective Evaluation after Rehabilitation	acoustic analysis, vocal signal, speech pathology, unilateral laryngeal paralysis	38, 5, 1339-1344	https://doi.org/10.18280/ts.380508	Kabache, M., Guerti, M. (2021). Acoustic analysis of voice signal of patients with unilateral laryngeal paralysis a view to objective evaluation after rehabilitation. Traitement du Signal, Vol. 38, No. 5, pp. 1339-1344. https://doi.org/10.18280/ts.380508
42	Prakash, S.J., Chetty, M.S.R., A, J.	Contrast Enhancement of Images Using Meta-Heuristic Algorithm	image processing, contrast enhancement, meta-heuristic, chaotic crow search, optimization	38, 5, 1345-1351	https://doi.org/10.18280/ts.380509	Prakash, S.J., Chetty, M.S.R., A, J. (2021). Contrast enhancement of images using meta-heuristic algorithm. Traitement du Signal, Vol. 38, No. 5, pp. 1345-1351. https://doi.org/10.18280/ts.380509
43	Cao, F.Y.	Depth Estimation of Single Defocused Images Based on Multi-Feature Fusion	single defocused images, depth estimation, multi-feature fusion, edge sparse blur	38, 5, 1353-1360	https://doi.org/10.18280/ts.380510	Cao, F.Y. (2021). Depth estimation of single defocused images based on multi-feature fusion. Traitement du Signal, Vol. 38, No. 5, pp. 1353-1360. https://doi.org/10.18280/ts.380510
44	Senalp, F.M., Ceylan, M.	Deep Learning Based Super Resolution and Classification Applications for Neonatal Thermal Images	classification, datasets, deep learning, super-resolution, thermal imaging	38, 5, 1361-1368	https://doi.org/10.18280/ts.380511	Senalp, F.M., Ceylan, M. (2021). Deep learning based super resolution and classification applications for neonatal thermal images. Traitement du Signal, Vol. 38, No. 5, pp. 1361-1368. https://doi.org/10.18280/ts.380511
45	Lalitha, A., Reddy, G.H.	An Integrated Signal Allocation Model with Effective Collision Resolution Model for Performance Enhancement of Wireless Sensor Networks	signal allocation, collision reduction, performance enhancement, integrated model, labelled weighted model	38, 5, 1369-1375	https://doi.org/10.18280/ts.380512	Lalitha, A., Reddy, G.H. (2021). An integrated signal allocation model with effective collision resolution model for performance enhancement of wireless sensor networks. Traitement du Signal, Vol. 38, No. 5, pp. 1369-1375. https://doi.org/10.18280/ts.380512
46	Vankayalapati, R., Muddana, A.L.	Accurate Brain Tumor Recognition Using Double-Weighted Feature Extraction Labelling Model with Priority Weighted Feature Selection	brain tumor, feature extraction, feature selection, MRI images, classification, tumor cells, double weighted labelling, priority weights, tumor detection	38, 5, 1377-1383	https://doi.org/10.18280/ts.380513	Vankayalapati, R., Muddana, A.L. (2021). Accurate brain tumor recognition using double-weighted feature extraction labelling model with priority weighted feature selection. Traitement du Signal, Vol. 38, No. 5, pp. 1377-1383. https://doi.org/10.18280/ts.380513
47	Liu, C., Yang, J., Zhao, W.N., Zhang, Y.N., Shi, C.P., Miao, F.J., Zhang, J.S.	Differential Privacy Protection of Face Images Based on Region Growing	face image publication, interactive framework, differential privacy, region growing, growth rule	38, 5, 1385-1401	https://doi.org/10.18280/ts.380514	Liu, C., Yang, J., Zhao, W.N., Zhang, Y.N., Shi, C.P., Miao, F.J., Zhang, J.S. (2021). Differential privacy protection of face images based on region growing. Traitement du Signal, Vol. 38, No. 5, pp. 1385-1401. https://doi.org/10.18280/ts.380514
48	Othman, N.A., Aydin, I.	Challenges and Limitations in Human Action Recognition on Unmanned Aerial Vehicles: A Comprehensive Survey	human action recognition, human detection, unmanned aerial vehicle, image processing, smart city	38, 5, 1403-1411	https://doi.org/10.18280/ts.380515	Othman, N.A., Aydin, I. (2021). Challenges and limitations in human action recognition on unmanned aerial vehicles: A comprehensive survey. Traitement du Signal, Vol. 38, No. 5, pp. 1403-1411. https://doi.org/10.18280/ts.380515
49	Sreenivasulu, V., Wajeed, M.A.	Image Based Classification of Rumor Information from the Social Network Platform	image spam data, text spam data, internet sources, fake emails, fake information, image classification, text classification, security	38, 5, 1413-1421	https://doi.org/10.18280/ts.380516	Sreenivasulu, V., Wajeed, M.A. (2021). Image based classification of rumor information from the social network platform. Traitement du Signal, Vol. 38, No. 5, pp. 1413-1421. https://doi.org/10.18280/ts.380516
50	Efe, E., Özşen, S.	A New Approach for Automatic Sleep Staging: Siamese Neural Networks	electroencephalogram (EEG), Siamese neural networks (SNNs), automatic sleep staging, convolutional neural networks (CNNs), classification, data augmentation	38, 5, 1423-1430	https://doi.org/10.18280/ts.380517	Efe, E., Özşen, S. (2021). A new approach for automatic sleep staging: Siamese neural networks. Traitement du Signal, Vol. 38, No. 5, pp. 1423-1430. https://doi.org/10.18280/ts.380517
51	Jiang, Y.	Application of Deep Learning and Brain Images in Diagnosis of Alzheimer's Patients	deep learning, brain image recognition, Alzheimer's disease	38, 5, 1431-1438	https://doi.org/10.18280/ts.380518	Jiang, Y. (2021). Application of deep learning and brain images in diagnosis of Alzheimer's patients. Traitement du Signal, Vol. 38, No. 5, pp. 1431-1438. https://doi.org/10.18280/ts.380518
52	Zahari, Z.L., Mustafa, M., Zain, Z.M., Abdubrani, R., Naim, F.	The Enhancement on Stress Levels Based on Physiological Signal and Self-Stress Assessment	stress, EEG, MCCA, multimodal, indices, accuracy	38, 5, 1439-1447	https://doi.org/10.18280/ts.380519	Zahari, Z.L., Mustafa, M., Zain, Z.M., Abdubrani, R., Naim, F. (2021). The enhancement on stress levels based on physiological signal and self-stress assessment. Traitement du Signal, Vol. 38, No. 5, pp. 1439-1447. https://doi.org/10.18280/ts.380519
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55	Zhang, G.H., Ogihara, A., Zhou, S.Y., Yang, X.T., Wang, Y.J., Ma, X.W., Li, S.W., Li, K.	A Home Efficacy Multi-Modal Intelligent Evaluation System for Wearable Treatment Equipment of Insomnia Through Integration Between Traditional Chinese Medicine and Modern Medicine	home treatment, multi-modal intelligent evaluation system (MIES), traditional Chinese medicine (TCM), wearable TCM treatment equipment, insomnia	38, 5, 1469-1476	https://doi.org/10.18280/ts.380522	Zhang, G.H., Ogihara, A., Zhou, S.Y., Yang, X.T., Wang, Y.J., Ma, X.W., Li, S.W., Li, K. (2021). A home efficacy multi-modal intelligent evaluation system for wearable treatment equipment of insomnia through integration between traditional Chinese medicine and modern medicine. Traitement du Signal, Vol. 38, No. 5, pp. 1469-1476. https://doi.org/10.18280/ts.380522
56	Yilmaz, M.	Wavelet Based and Statistical EEG Analysis in Patients with Schizophrenia	EEG data, schizophrenia, wavelet analysis, statistics	38, 5, 1477-1483	https://doi.org/10.18280/ts.380523	Yilmaz, M. (2021). Wavelet based and statistical EEG analysis in patients with schizophrenia. Traitement du Signal, Vol. 38, No. 5, pp. 1477-1483. https://doi.org/10.18280/ts.380523
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61	Radhakrishnan, M., Ramamurthy, K., Kothandaraman, A., Madaan, G., Machavaram, H.	Investigating EEG Signals of Autistic Individuals Using Detrended Fluctuation Analysis	detrended fluctuation analysis, hurst parameter, self-similarity, typically developing, autism spectrum disorder	38, 5, 1515-1520	https://doi.org/10.18280/ts.380528	Radhakrishnan, M., Ramamurthy, K., Kothandaraman, A., Madaan, G., Machavaram, H. (2021). Investigating EEG signals of autistic individuals using detrended fluctuation analysis. Traitement du Signal, Vol. 38, No. 5, pp. 1515-1520. https://doi.org/10.18280/ts.380528
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63	Sridhar, B.	Investigations of Medical Image Segmentation Methods with Inclusion Mathematical Morphological Operations	image segmentation, medical images, watershed transform, fuzzy logic based techniques, MRF and mathematical morphology	38, 5, 1531-1540	https://doi.org/10.18280/ts.380530	Sridhar, B. (2021). Investigations of medical image segmentation methods with inclusion mathematical morphological operations. Traitement du Signal, Vol. 38, No. 5, pp. 1531-1540. https://doi.org/10.18280/ts.380530
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65	Vigil, A., Bharathi, S.	Diagnosis of Pulpitis from Dental Panoramic Radiograph Using Histogram of Gradients with Discrete Wavelet Transform and Multilevel Neural Network Techniques	dental panoramic radiograph, modified k-means, pulpitis, discrete wavelet transform, multi-level neural network	38, 5, 1549-1555	https://doi.org/10.18280/ts.380532	Vigil, A., Bharathi, S. (2021). Diagnosis of pulpitis from dental panoramic radiograph using histogram of gradients with discrete wavelet transform and multilevel neural network techniques. Traitement du Signal, Vol. 38, No. 5, pp. 1549-1555. https://doi.org/10.18280/ts.380532
66	Chen, Y.	An Alzheimer's Disease Identification and Classification Model Based on the Convolutional Neural Network with Attention Mechanisms	Alzheimer's disease, identification and classification, attention mechanism, convolutional neural network	38, 5, 1557-1564	https://doi.org/10.18280/ts.380533	Chen, Y. (2021). An Alzheimer's disease identification and classification model based on the convolutional neural network with attention mechanisms. Traitement du Signal, Vol. 38, No. 5, pp. 1557-1564. https://doi.org/10.18280/ts.380533
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68	Salgado, M.C., Elías, R.P., Salazar, A.M.	Function to Flatten Gesture Data for Specific Feature Selection Methods to Improve Classification	Bayesian networks, chronologically linked data, feature selection methods, gesture classification, Logical Combinatorial to Pattern Recognition, Markov blanket	38, 4, 929-935	https://doi.org/10.18280/ts.380402	Salgado, M.C., Elías, R.P., Salazar, A.M. (2021). Function to flatten gesture data for specific feature selection methods to improve classification. Traitement du Signal, Vol. 38, No. 4, pp. 929-935. https://doi.org/10.18280/ts.380402
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72	Mütevelli, M.H., Ergin, S.	The Detection of Brain Tumors Using Chan-Vese Active Contour Without Edges Method in Magnetic Resonance (MR) Images	brain tumor, computer aided detection, skull removal, suspicious region detection	38, 4, 967-978	https://doi.org/10.18280/ts.380406	Mütevelli, M.H., Ergin, S. (2021). The detection of brain tumors using Chan-Vese active contour without edges method in magnetic resonance (MR) images. Traitement du Signal, Vol. 38, No. 4, pp. 967-978. https://doi.org/10.18280/ts.380406
73	Bo, Q.Y., Cheng, W.Q.	Design of a Groundwater Level Monitoring System Based on Internet of Things and Image Recognition	image recognition, internet of things (IoT), groundwater level monitoring, edge detection algorithm	38, 4, 979-984	https://doi.org/10.18280/ts.380407	Bo, Q.Y., Cheng, W.Q. (2021). Design of a groundwater level monitoring system based on Internet of Things and image recognition. Traitement du Signal, Vol. 38, No. 4, pp. 979-984. https://doi.org/10.18280/ts.380407
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75	Gollu, V.K., Sravani, G.U., Prakash, M.S., Srikanth, G.	Pipeline of Optimization Techniques for Multi-Level Thresholding in Medical Image Compression Using 2D Histogram	genetic algorithm (GA), image compression, image thresholding, particle swarm optimization (PSO), symbiotic organisms search (SOS), 2-D histogram	38, 4, 993-1006	https://doi.org/10.18280/ts.380409	Gollu, V.K., Sravani, G.U., Prakash, M.S., Srikanth, G. (2021). Pipeline of optimization techniques for multi-level thresholding in medical image compression using 2D histogram. Traitement du Signal, Vol. 38, No. 4, pp. 993-1006. https://doi.org/10.18280/ts.380409
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77	Zhang, Q., Xiao, L.Y., Shi, Y.F.	Extraction and Classification of Mouth Shape Features in Oral English Teaching Based on Image Processing	oral English teaching, mouth shape feature extraction, mouth shape classification, image processing	38, 4, 1013-121	https://doi.org/10.18280/ts.380411	Zhang, Q., Xiao, L.Y., Shi, Y.F. (2021). Extraction and classification of mouth shape features in oral English teaching based on image processing. Traitement du Signal, Vol. 38, No. 4, pp. 1013-1021. https://doi.org/10.18280/ts.380411
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79	Singh, A.K., Kim, Y.H.	Classification of Drones Using Edge-Enhanced Micro-Doppler Image Based on CNN	classification, radar signal processing, W-band, micro-Doppler imaging, deep learning	38, 4, 1033-1039	https://doi.org/10.18280/ts.380413	Singh, A.K., Kim, Y.H. (2021). Classification of drones using edge-enhanced micro-doppler image based on CNN. Traitement du Signal, Vol. 38, No. 4, pp. 1033-1039. https://doi.org/10.18280/ts.380413

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81	Lakra, M., Kumar, S.	Disparity Computation Through PDE and Data-Driven CeNN Technique	belief propagation, cellular neural network, distance regularization term, energy minimization	38, 4, 1051-1059	https://doi.org/10.18280/ts.380415	Lakra, M., Kumar, S. (2021). Disparity computation through PDE and data-driven CeNN technique. Traitement du Signal, Vol. 38, No. 4, pp. 1051-1059. https://doi.org/10.18280/ts.380415
82	Challab, J.M., Mardukhi, F.	A Hybrid Method Based on LSTM and Optimized SVM for Diagnosis of Novel Coronavirus (COVID-19)	ant colony optimization (ACO), COVID-19, ant lion optimization (ALO), support vector machine (SVM), RNN	38, 4, 1061-1069	https://doi.org/10.18280/ts.380416	Challab, J.M., Mardukhi, F. (2021). A hybrid method based on LSTM and optimized SVM for diagnosis of novel coronavirus (COVID-19). Traitement du Signal, Vol. 38, No. 4, pp. 1061-1069. https://doi.org/10.18280/ts.380416
83	Xue, P., Jiang, C.H., Pang, H.L.	Detection of Various Types of Metal Surface Defects Based on Image Processing	image processing, metal surface, defect detection, EfficientNet	38, 4, 1071-1078	https://doi.org/10.18280/ts.380417	Xue, P., Jiang, C.H., Pang, H.L. (2021). Detection of various types of metal surface defects based on image processing. Traitement du Signal, Vol. 38, No. 4, pp. 1071-1078. https://doi.org/10.18280/ts.380417
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86	Lu, M.S., Liu, H.Y., Yuan, X.P.	Thermal Fault Diagnosis of Electrical Equipment in Substations Based on Image Fusion	infrared thermal imaging, electrical equipment, substation, thermal fault diagnosis	38, 4, 1095-1102	https://doi.org/10.18280/ts.380420	Lu, M.S., Liu, H.Y., Yuan, X.P. (2021). Thermal fault diagnosis of electrical equipment in substations based on image fusion. Traitement du Signal, Vol. 38, No. 4, pp. 1095-1102. https://doi.org/10.18280/ts.380420
87	Joshua, E.S.N., Bhattacharyya, D., Chakkravarthy, M., Kim, H.J.	Lung Cancer Classification Using Squeeze and Excitation Convolutional Neural Networks with Grad Cam++ Class Activation Function	lung cancer, (SENET) squeeze and excite network, class activation, Grad-Cam++, deep learning, CNN, Luna-16, nodule	38, 4, 1103-1112	https://doi.org/10.18280/ts.380421	Joshua, E.S.N., Bhattacharyya, D., Chakkravarthy, M., Kim, H.J. (2021). Lung cancer classification using squeeze and excitation convolutional neural networks with Grad Cam++ class activation function. Traitement du Signal, Vol. 38, No. 4, pp. 1103-1112. https://doi.org/10.18280/ts.380421
88	Chaudhary, S., Hiranwal, S., Gupta, C.P.	Spectral Graph Wavelet Based Image Steganography Using SVD and Arnold Transform	graph signal processing, steganography, spectral graph wavelet, SVD, Arnold transform	38, 4, 1113-1121	https://doi.org/10.18280/ts.380422	Chaudhary, S., Hiranwal, S., Gupta, C.P. (2021). Spectral graph wavelet based image steganography using SVD and Arnold transform. Traitement du Signal, Vol. 38, No. 4, pp. 1113-1121. https://doi.org/10.18280/ts.380422
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90	Virnodkar, S.S., Pachghare, V.K., Patil, V.C., Jha, S.K.	DenseResUNet: An Architecture to Assess Water-Stressed Sugarcane Crops from Sentinel-2 Satellite Imagery	sugarcane crop, Sentinel-2, deep learning, crop water stress, DenseResUNet	38, 4, 1131-1139	https://doi.org/10.18280/ts.380424	Virnodkar, S.S., Pachghare, V.K., Patil, V.C., Jha, S.K. (2021). DenseResUNet: An architecture to assess water-stressed sugarcane crops from Sentinel-2 satellite imagery. Traitement du Signal, Vol. 38, No. 4, pp. 1131-1139. https://doi.org/10.18280/ts.380424
91	Ahmed, M.Z., Mahesh, C.	An Efficient Image Based Feature Extraction and Feature Selection Model for Medical Data Clustering Using Deep Neural Networks	feature extraction, feature selection, medical data clustering, deep neural networks, deep convolution neural network, content based image retrieval	38, 4, 1141-1148	https://doi.org/10.18280/ts.380425	Ahmed, M.Z., Mahesh, C. (2021). An efficient image based feature extraction and feature selection model for medical data clustering using deep neural networks. Traitement du Signal, Vol. 38, No. 4, pp. 1141-1148. https://doi.org/10.18280/ts.380425
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93	Brahmaiah, V.P., Sai, Y.P., Prasad, M.N.G.	Accurate and Efficient Differentiation Between Normal and Epileptic Seizure of Eyes Using 13 Layer Convolution Neural Network	background noise, dynamic time wrapping, hidden Markov model, blink features, optimal feature selection, thirteen layer neural network	38, 4, 1161-1169	https://doi.org/10.18280/ts.380427	Brahmaiah, V.P., Sai, Y.P., Prasad, M.N.G. (2021). Accurate and efficient differentiation between normal and epileptic seizure of eyes using 13 layer convolution neural network. Traitement du Signal, Vol. 38, No. 4, pp. 1161-1169. https://doi.org/10.18280/ts.380427
94	Kuraparthi, S., Reddy, M.K., Sujatha, C.N., Valiveti, H., Duggineni, C., Kollati, M., Kora, P., V, S.	Brain Tumor Classification of MRI Images Using Deep Convolutional Neural Network	brain tumor, data augmentation, deep convolutional neural networks, magnetic resonance images, transfer learning, support vector machine	38, 4, 1171-1179	https://doi.org/10.18280/ts.380428	Kuraparthi, S., Reddy, M.K., Sujatha, C.N., Valiveti, H., Duggineni, C., Kollati, M., Kora, P., V, S. (2021). Brain tumor classification of MRI images using deep convolutional neural network. Traitement du Signal, Vol. 38, No. 4, pp. 1171-1179. https://doi.org/10.18280/ts.380428
95	Gao, Z.T., Cai, J.X., Shi, Y.N., Hong, L., Yan, F.F., Zhang, M.Y.	Integration of Two-Dimensional Kernel Principal Component Analysis Plus Two-Dimensional Linear Discriminant Analysis with Convolutional Neural Network for Finger Vein Recognition	finger vein recognition, subspace learning, convolutional neural network (CNN)	38, 4, 1181-1187	https://doi.org/10.18280/ts.380429	Gao, Z.T., Cai, J.X., Shi, Y.N., Hong, L., Yan, F.F., Zhang, M.Y. (2021). Integration of two-dimensional kernel principal component analysis plus two-dimensional linear discriminant analysis with convolutional neural network for finger vein recognition. Traitement du Signal, Vol. 38, No. 4, pp. 1181-1187. https://doi.org/10.18280/ts.380429
96	Abdulrahman, A., Baykara, M.	A Comprehensive Review for Emotion Detection Based on EEG Signals: Challenges, Applications, and Open Issues	electroencephalogram, classification, emotion recognition, features extraction, EEG, FFT, DWT	38, 4, 1189-1200	https://doi.org/10.18280/ts.380430	Abdulrahman, A., Baykara, M. (2021). A comprehensive review for emotion detection based on EEG signals: Challenges, applications, and open issues. Traitement du Signal, Vol. 38, No. 4, pp. 1189-1200. https://doi.org/10.18280/ts.380430
97	Aswini, T.V.N.L., Raju, K.P., Kumari, B.L.	Subsampled Circulant Matrix Based Wideband Spectrum Sensing Using Fusion Based Recovery Algorithm	modulated wideband converter, circulant matrix, deterministic sequence, compressive sensing, orthogonal matching pursuit	38, 4, 1201-1208	https://doi.org/10.18280/ts.380431	Aswini, T.V.N.L., Raju, K.P., Kumari, B.L. (2021). Subsampled circulant matrix based wideband spectrum sensing using fusion based recovery algorithm. Traitement du Signal, Vol. 38, No. 4, pp. 1201-1208. https://doi.org/10.18280/ts.380431
98	Han, X., Jiang, S., Yu, J., Zhang, F.	A Visual Tracking Algorithm Based on Estimation of Regression Probability Distribution	target tracking, Siamese network, regression probability distribution, quality assessment	38, 4, 1209-1215	https://doi.org/10.18280/ts.380432	Han, X., Jiang, S., Yu, J., Zhang, F. (2021). A visual tracking algorithm based on estimation of regression probability distribution. Traitement du Signal, Vol. 38, No. 4, pp. 1209-1215. https://doi.org/10.18280/ts.380432
99	Choubey, S.B., Choubey, A., Nandan, D., Mahajan, A.	Polycystic Ovarian Syndrome Detection by Using Two-Stage Image Denoising	denoising, Discrete Wavelet Transform (DWT), neural network, Polycystic Ovarian Syndrome (PCOS) detection, PSNR, MSE, SSIM	38, 4, 1217-1227	https://doi.org/10.18280/ts.380433	Choubey, S.B., Choubey, A., Nandan, D., Mahajan, A. (2021). Polycystic ovarian syndrome detection by using two-stage image denoising. Traitement du Signal, Vol. 38, No. 4, pp. 1217-1227. https://doi.org/10.18280/ts.380433

100	Avci, D., Sert, E.	An Effective Turkey Marble Classification System: Convolutional Neural Network with Genetic Algorithm -Wavelet Kernel - Extreme Learning Machine	CNN, genetic algorithm, wavelet kernel-extreme learning machine, marble classification	38, 4, 1229-1235	https://doi.org/10.18280/ts.380434	Avci, D., Sert, E. (2021). An effective turkey marble classification system: Convolutional neural network with genetic algorithm -wavelet kernel - extreme learning machine. Traitement du Signal, Vol. 38, No. 4, pp. 1229-1235. https://doi.org/10.18280/ts.380434
101	Chen, D., Tang, J.L., Xi, H.X., Zhao, X.R.	Image Recognition of Modern Agricultural Fruit Maturity Based on Internet of Things	internet of things (IoT), image processing, modern agriculture, fruit maturity	38, 4, 1237-1244	https://doi.org/10.18280/ts.380435	Chen, D., Tang, J.L., Xi, H.X., Zhao, X.R. (2021). Image recognition of modern agricultural fruit maturity based on internet of things. Traitement du Signal, Vol. 38, No. 4, pp. 1237-1244. https://doi.org/10.18280/ts.380435
102	Alaoui, N., Mashat, A., Adamou-Mitiche, A.B.H., Mitiche, L., Djalab, A., Daoudi, S., Bouhamla, L.	Impulse Noise Removal Based on Hybrid Genetic Algorithm	image denosing, noise removal, impulse noise, salt and pepper noise, genetic algorithm	38, 4, 1245-1251	https://doi.org/10.18280/ts.380436	Alaoui, N., Mashat, A., Adamou-Mitiche, A.B.H., Mitiche, L., Djalab, A., Daoudi, S., Bouhamla, L. (2021). Impulse noise removal based on hybrid genetic algorithm. Traitement du Signal, Vol. 38, No. 4, pp. 1245-1251. https://doi.org/10.18280/ts.380436
103	Zhong, L.H., Li, J., Zhou, F.F., Bao, X.A., Xing, W.Y., Han, Z.Y., Luo, J.S.	Integration Between Cascade Region-Based Convolutional Neural Network and Bi-Directional Feature Pyramid Network for Live Object Tracking and Detection	cascade region-based convolutional neural network (R-CNN), bi-directional feature pyramid network (BiFPN), live object tracking and detection	38, 4, 1253-1257	https://doi.org/10.18280/ts.380437	Zhong, L.H., Li, J., Zhou, F.F., Bao, X.A., Xing, W.Y., Han, Z.Y., Luo, J.S. (2021). Integration between cascade region-based convolutional neural network and bi-directional feature pyramid network for live object tracking and detection. Traitement du Signal, Vol. 38, No. 4, pp. 1253-1257. https://doi.org/10.18280/ts.380437
104	Telli, H., Sbaa, S., Bekhouche, S.E., Dornaika, F., Taleb-Ahmed, A., López, M.B.	A Novel Multi-Level Pyramid Co-Variance Operators for Estimation of Personality Traits and Job Screening Scores	APA2016 dataset, Big-Five personality traits, job candidate screening, PML-COV descriptor, regression	38, 3, 539-546	https://doi.org/10.18280/ts.380301	Telli, H., Sbaa, S., Bekhouche, S.E., Dornaika, F., Taleb-Ahmed, A., López, M.B. (2021). A novel multi-level Pyramid Co-Variance operators for estimation of personality traits and job screening scores. Traitement du Signal, Vol. 38, No. 3, pp. 539-546. https://doi.org/10.18280/ts.380301
105	Papageorgiou, V.	Brain Tumor Detection Based on Features Extracted and Classified Using a Low-Complexity Neural Network	artificial intelligence, brain MRI, convolutional neural networks, cross-entropy, Jensen-Shannon divergence, loss functions, tumor detection	38, 3, 547-554	https://doi.org/10.18280/ts.380302	Papageorgiou, V. (2021). Brain tumor detection based on features extracted and classified using a low-complexity neural network. Traitement du Signal, Vol. 38, No. 3, pp. 547-554. https://doi.org/10.18280/ts.380302
106	Benaissa, B.E., Lahfa, F., Naima, K., Lorenzini, G., Inc, M., Menni, Y.	Detection and Cooperative Communications for Deployment Sensor Networks	Wireless Sensor Network (WSN), clustering, Received Signal Strength Indicator (RSSI), IoT routing protocol	38, 3, 555-564	https://doi.org/10.18280/ts.380303	Benaissa, B.E., Lahfa, F., Naima, K., Lorenzini, G., Inc, M., Menni, Y. (2021). Detection and cooperative communications for deployment sensor networks. Traitement du Signal, Vol. 38, No. 3, pp. 555-564. https://doi.org/10.18280/ts.380303
107	Jia, Y.K., Ding, R.T., Ren, W., Shu, J.F., Jin, A.X.	Gesture Recognition of Somatosensory Interactive Acupoint Massage Based on Image Feature Deep Learning Model	image feature, deep learning, somatosensory interaction, gesture recognition, acupoint massage	38, 3, 565-572	https://doi.org/10.18280/ts.380304	Jia, Y.K., Ding, R.T., Ren, W., Shu, J.F., Jin, A.X. (2021). Gesture recognition of somatosensory interactive acupoint massage based on image feature deep learning model. Traitement du Signal, Vol. 38, No. 3, pp. 565-572. https://doi.org/10.18280/ts.380304
108	Ouannes, L., Ben Khalifa, A., Essoukri Ben Amara, N.	Comparative Study Based on De-Occlusion and Reconstruction of Face Images in Degraded Conditions	face recognition, degraded conditions, face detection, face de-occlusion, face reconstruction, Laplacian pyramid blending, CycleGANs	38, 3, 573-585	https://doi.org/10.18280/ts.380305	Ouannes, L., Ben Khalifa, A., Essoukri Ben Amara, N. (2021). Comparative study based on de-occlusion and reconstruction of face images in degraded conditions. Traitement du Signal, Vol. 38, No. 3, pp. 573-585. https://doi.org/10.18280/ts.380305
109	Özel, E., Tekin, R., Kaya, Y.	Implementation of Artifact Removal Algorithms in Gait Signals for Diagnosis of Parkinson Disease	filtering and noise reduction, Parkinson disease, feature extraction, signal processing	38, 3, 587-597	https://doi.org/10.18280/ts.380306	Özel, E., Tekin, R., Kaya, Y. (2021). Implementation of artifact removal algorithms in gait signals for diagnosis of Parkinson disease. Traitement du Signal, Vol. 38, No. 3, pp. 587-597. https://doi.org/10.18280/ts.380306
110	Liu, Y.G., Wu, Y.	A Multi-Feature Motion Posture Recognition Model Based on Genetic Algorithm	motion posture recognition, multi-feature, genetic algorithm (GA), visual background extractor (ViBe) algorithm	38, 3, 599-605	https://doi.org/10.18280/ts.380307	Liu, Y.G., Wu, Y. (2021). A multi-feature motion posture recognition model based on genetic algorithm. Traitement du Signal, Vol. 38, No. 3, pp. 599-605. https://doi.org/10.18280/ts.380307
111	Panguluri, S.K., Mohan, L.	A DWT Based Novel Multimodal Image Fusion Method	infrared image, visible image, DWT, IDWT, Filters based mean-weighted fusion rule, Filters based max-weighted fusion rule	38, 3, 607-617	https://doi.org/10.18280/ts.380308	Panguluri, S.K., Mohan, L. (2021). A DWT based novel multimodal image fusion method. Traitement du Signal, Vol. 38, No. 3, pp. 607-617. https://doi.org/10.18280/ts.380308
112	Firildak, K., Talu, M.F.	A Hybrid Capsule Network for Pneumonia Detection Using Image Augmentation Based on Generative Adversarial Network	pneumonia, capsule network, deep convolutional generative adversarial network (DCGAN), chest X-ray, data augmentation, classification	38, 3, 619-627	https://doi.org/10.18280/ts.380309	Firildak, K., Talu, M.F. (2021). A hybrid capsule network for pneumonia detection using image augmentation based on generative adversarial network. Traitement du Signal, Vol. 38, No. 3, pp. 619-627. https://doi.org/10.18280/ts.380309
113	Chen, Y., Wang, Y.Y., Cai, Z.H., Jiang, M.	Predictions for Central Lymph Node Metastasis of Papillary Thyroid Carcinoma via CNN-Based Fusion Modeling of Ultrasound Images	papillary thyroid carcinoma, central lymph node metastasis, ultrasound images, radiomic feature, deep learning, convolutional neural network	38, 3, 629-638	https://doi.org/10.18280/ts.380310	Chen, Y., Wang, Y.Y., Cai, Z.H., Jiang, M. (2021). Predictions for central lymph node metastasis of papillary thyroid carcinoma via CNN-based fusion modeling of ultrasound images. Traitement du Signal, Vol. 38, No. 3, pp. 629-638. https://doi.org/10.18280/ts.380310
114	Ismael, A.A., Baykara, M.	Digital Image Denoising Techniques Based on Multi-Resolution Wavelet Domain with Spatial Filters: A Review	digital image denoising, hybrid denoising, multi-resolution wavelet domain, spatial domain filtering, thresholding techniques	38, 3, 639-651	https://doi.org/10.18280/ts.380311	Ismael, A.A., Baykara, M. (2021). Digital image denoising techniques based on multi-resolution wavelet domain with spatial filters: A review. Traitement du Signal, Vol. 38, No. 3, pp. 639-651. https://doi.org/10.18280/ts.380311
115	Hassan, L., Saleh, A., Abdel-Nasser, M., Omer, O.A., Puig, D.	Efficient Multi-Organ Multi-Center Cell Nuclei Segmentation Method Based on Deep Learnable Aggregation Network	computer-aided diagnosis, deep learning, digital pathology, nuclei segmentation, whole slide imaging	38, 3, 653-661	https://doi.org/10.18280/ts.380312	Hassan, L., Saleh, A., Abdel-Nasser, M., Omer, O.A., Puig, D. (2021). Efficient multi-organ multi-center cell nuclei segmentation method based on deep learnable aggregation network. Traitement du Signal, Vol. 38, No. 3, pp. 653-661. https://doi.org/10.18280/ts.380312
116	Quan, X.Z., Chen, J.	Multi-Source Data Fusion and Target Tracking of Heterogeneous Network Based on Data Mining	data mining, heterogeneous network, multi-source data fusion and target tracking, millimeter wave heterogeneous network	38, 3, 663-671	https://doi.org/10.18280/ts.380313	Quan, X.Z., Chen, J. (2021). Multi-source data fusion and target tracking of heterogeneous network based on data mining. Traitement du Signal, Vol. 38, No. 3, pp. 663-671. https://doi.org/10.18280/ts.380313
117	Tuncer, S.A., Çınar, A., Fırat, M.	Hybrid CNN Based Computer-Aided Diagnosis System for Choroidal Neovascularization, Diabetic Macular Edema, Drusen Disease Detection from OCT Images	choroidal neovascularization, drusen, diabetic macular edema, CNN-SVM	38, 3, 673-679	https://doi.org/10.18280/ts.380314	Tuncer, S.A., Çınar, A., Fırat, M. (2021). Hybrid CNN based computer-aided diagnosis system for choroidal neovascularization, diabetic macular edema, drusen disease detection from OCT images. Traitement du Signal, Vol. 38, No. 3, pp. 673-679. https://doi.org/10.18280/ts.380314
118	Kathi, M.G., Shaik, J.H.	An Approach of Detecting the Age of a Human by Extracting the Face Parts and Applying the Hierarchical Methods	age prediction, CNN, face parts extraction, Hierarchical method	38, 3, 681-688	https://doi.org/10.18280/ts.380315	Kathi, M.G., Shaik, J.H. (2021). An approach of detecting the age of a human by extracting the face parts and applying the hierarchical methods. Traitement du Signal, Vol. 38, No. 3, pp. 681-688. https://doi.org/10.18280/ts.380315
119	Zhang, C., Zou, J., Ma, Z.J.	Identification and Analysis of Limb Rehabilitation Signal Based on Wavelet Transform	wavelet thresholding, limb rehabilitation, electromyography (EMG) signal, pattern recognition	38, 3, 689-697	https://doi.org/10.18280/ts.380316	Zhang, C., Zou, J., Ma, Z.J. (2021). Identification and analysis of limb rehabilitation signal based on wavelet transform. Traitement du Signal, Vol. 38, No. 3, pp. 689-697. https://doi.org/10.18280/ts.380316

120	Wagle, S.A., R, H.	A Deep Learning-Based Approach in Classification and Validation of Tomato Leaf Disease	AlexNet, classification of plant disease, data augmentation, GoogLeNet, MobileNetv2, SqueezeNet, validation, VGG16	38, 3, 699-709	https://doi.org/10.18280/ts.380317	Wagle, S.A., R, H. (2021). A deep learning-based approach in classification and validation of tomato leaf disease. Traitement du Signal, Vol. 38, No. 3, pp. 699-709. https://doi.org/10.18280/ts.380317
121	Khrisat, M.S., Zneit, R.S.A., Zaini, H.G., Alqadi, Z.A.	Analysis Methods Used to Extract Fingerprints Features	fingerprint, histogram, MLBP, K_means, WPT, minutiae, features, rotation	38, 3, 711-717	https://doi.org/10.18280/ts.380318	Khrisat, M.S., Zneit, R.S.A., Zaini, H.G., Alqadi, Z.A. (2021). Analysis methods used to extract fingerprints features. Traitement du Signal, Vol. 38, No. 3, pp. 711-717. https://doi.org/10.18280/ts.380318
122	Guan, Y.R., Aamir, M., Hu, Z.H., Dayo, Z.A., Rahman, Z., Abro, W.A., Soothar, P.	An Object Detection Framework Based on Deep Features and High-Quality Object Locations	object detection, high-quality proposals, convolutional neural network (CNN), deep features	38, 3, 719-730	https://doi.org/10.18280/ts.380319	Guan, Y.R., Aamir, M., Hu, Z.H., Dayo, Z.A., Rahman, Z., Abro, W.A., Soothar, P. (2021). An object detection framework based on deep features and high-quality object locations. Traitement du Signal, Vol. 38, No. 3, pp. 719-730. https://doi.org/10.18280/ts.380319
123	Khan, S.I., Kumar, G.G., Naishadkumar, P.V., Rao, S.P.V.S.	Analysis of Normal and Adventitious Lung Sound Signals Using Empirical Mode Decomposition and Central Tendency Measure	chronic obstructive pulmonary disease (COPD), adventitious lung sounds (ALS), electronic stethoscope, intrinsic mode functions (IMFs)	38, 3, 731-738	https://doi.org/10.18280/ts.380320	Khan, S.I., Kumar, G.G., Naishadkumar, P.V., Rao, S.P.V.S. (2021). Analysis of normal and adventitious lung sound signals using empirical mode decomposition and central tendency measure. Traitement du Signal, Vol. 38, No. 3, pp. 731-738. https://doi.org/10.18280/ts.380320
124	Bujunuru, A., Tadisetty, S.	Throughput Optimization of Parallel Sensing and Energy Harvesting Cognitive Radio Network	cognitive radio, energy harvesting cognitive radio network (EHCRN), PEHCRN, spectrum sensing, throughput optimization	38, 3, 739-745	https://doi.org/10.18280/ts.380321	Bujunuru, A., Tadisetty, S. (2021). Throughput optimization of parallel sensing and energy harvesting cognitive radio network. Traitement du Signal, Vol. 38, No. 3, pp. 739-745. https://doi.org/10.18280/ts.380321
125	Tan, C., Yang, S.Y.	Automatic Extraction of Color Features from Landscape Images Based on Image Processing	image processing, landscape colors, color feature extraction, color constancy	38, 3, 747-755	https://doi.org/10.18280/ts.380322	Tan, C., Yang, S.Y. (2021). Automatic extraction of color features from landscape images based on image processing. Traitement du Signal, Vol. 38, No. 3, pp. 747-755. https://doi.org/10.18280/ts.380322
126	Yildirim, S., Kocer, H.E., Ekmekci, A.H.	Quantitative Analysis of EEG Slow Wave Activity Based on MinPeakProminence Method	electroencephalogram, slow wave, peak, minpeakprominence, epilepsy, neurologic disorder	38, 3, 757-773	https://doi.org/10.18280/ts.380323	Yildirim, S., Kocer, H.E., Ekmekci, A.H. (2021). Quantitative analysis of EEG slow wave activity based on minpeakprominence method. Traitement du Signal, Vol. 38, No. 3, pp. 757-773. https://doi.org/10.18280/ts.380323
127	Wu, D., Zhang, C.J., Ji, L., Ran, R., Wu, H.Y., Xu, Y.M.	Forest Fire Recognition Based on Feature Extraction from Multi-View Images	forest fire recognition, multi-view images, graph neural network (GNN), convolutional neural network (CNN), feature extraction	38, 3, 775-783	https://doi.org/10.18280/ts.380324	Wu, D., Zhang, C.J., Ji, L., Ran, R., Wu, H.Y., Xu, Y.M. (2021). Forest fire recognition based on feature extraction from multi-view images. Traitement du Signal, Vol. 38, No. 3, pp. 775-783. https://doi.org/10.18280/ts.380324
128	S, S.P., T, K.K.	Signed Convex Combination of Fast Convergence Algorithm to Generalized Sidelobe Canceller Beamformer for Multi-Channel Speech Enhancement	multi-channel speech enhancement, generalized sidelobe canceller (GSC) beamforming, adaptive filters, fast convergence normalized least mean square (FCNLMS), signed convex combination of fast convergence (SCCFC)	38, 3, 785-795	https://doi.org/10.18280/ts.380325	S, S.P., T, K.K. (2021). Signed convex combination of fast convergence algorithm to generalized sidelobe canceller beamformer for multi-channel speech enhancement. Traitement du Signal, Vol. 38, No. 3, pp. 785-795. https://doi.org/10.18280/ts.380325
129	Yu, J.H., Miao, W.J., Zhang, G.B., Li, K., Shi, Y.G., Liu, L.	Target Positioning and Sorting Strategy of Fruit Sorting Robot Based on Image Processing	three-dimensional (3D) scene object recognition, fruit sorting, industrial robot, recognition of fruit maturity	38, 3, 797-805	https://doi.org/10.18280/ts.380326	Yu, J.H., Miao, W.J., Zhang, G.B., Li, K., Shi, Y.G., Liu, L. (2021). Target positioning and sorting strategy of fruit sorting robot based on image processing. Traitement du Signal, Vol. 38, No. 3, pp. 797-805. https://doi.org/10.18280/ts.380326
130	Özcan, F., Alkan, A.	Frontal Cortex Neuron Type Classification with Deep Learning and Recurrence Plot	classification, deep learning, excitator, inhibitor, neuroscience, point processing, recurrence plot, spike, excitatory units	38, 3, 807-819	https://doi.org/10.18280/ts.380327	Özcan, F., Alkan, A. (2021). Frontal cortex neuron type classification with deep learning and recurrence plot. Traitement du Signal,Vol. 38, No. 3, pp. 807-819. https://doi.org/10.18280/ts.380327
131	Rao, G.S., Srikrishna, A.	Contrast Enhancement of Poor-Quality Satellite Images Through Morphological Operations	morphological operations, satellite images, image segmentation, contrast enhancement, pixel-by-pixel identification, dull pixels, bright pixels	38, 3, 821-827	https://doi.org/10.18280/ts.380328	Rao, G.S., Srikrishna, A. (2021). Contrast enhancement of poor-quality satellite images through morphological operations. Traitement du Signal, Vol. 38, No. 3, pp. 821-827. https://doi.org/10.18280/ts.380328
132	Ma, W.Y.	Single Sample Discriminant Analysis Based on Gabor Transform	Gabor transform, KPCA-RBF (kernel principal component analysis-radial basis function), classifier, pixel-level fusion, single-sample discriminant analysis	38, 3, 829-835	https://doi.org/10.18280/ts.380329	Ma, W.Y. (2021). Single sample discriminant analysis based on Gabor transform. Traitement du Signal, Vol. 38, No. 3, pp. 829-835. https://doi.org/10.18280/ts.380329
133	Alapati, Y.K., Ravichandran, S.	An Efficient Signal Processing Model for Malicious Signal Identification and Energy Consumption Reduction for Improving Data Transmission Rate	malicious signal, data transfer, routing, data loss, congestion control, signal behavior, data delivery rate, energy consumption	38, 3, 837-843	https://doi.org/10.18280/ts.380330	Alapati, Y.K., Ravichandran, S. (2021). An efficient signal processing model for malicious signal identification and energy consumption reduction for improving data transmission rate. Traitement du Signal, Vol. 38, No. 3, pp. 837-843. https://doi.org/10.18280/ts.380330
134	Yu, J.Y., Bai, X.J.	Analysis of Classroom Learning Behaviors Based on Internet of Things and Image Processing	bimodal emotion identification, Internet of things (IoT), countenances, electroencephalogram (EEG)	38, 3, 845-851	https://doi.org/10.18280/ts.380331	Yu, J.Y., Bai, X.J. (2021). Analysis of classroom learning behaviors based on internet of things and image processing. Traitement du Signal, Vol. 38, No. 3, pp. 845-851. https://doi.org/10.18280/ts.380331
135	Radhakrishnan, M., Ramamurthy, K., Choudhury, K.K., Won, D., Manoharan, T.A.	Performance Analysis of Deep Learning Models for Detection of Autism Spectrum Disorder from EEG Signals	ASD, EEG, spectrogram, deep learning, CNN, accuracy	38, 3, 853-863	https://doi.org/10.18280/ts.380332	Radhakrishnan, M., Ramamurthy, K., Choudhury, K.K., Won, D., Manoharan, T.A. (2021). Performance analysis of deep learning models for detection of autism spectrum disorder from EEG signals. Traitement du Signal, Vol. 38, No. 3, pp. 853-863. https://doi.org/10.18280/ts.380332
136	Wang, S.Y.	Online Learning Behavior Analysis Based on Image Emotion Recognition	image emotion recognition, online learning, learning behavior analysis, learning emotion recognition	38, 3, 865-873	https://doi.org/10.18280/ts.380333	Wang, S.Y. (2021). Online learning behavior analysis based on image emotion recognition. Traitement du Signal, Vol. 38, No. 3, pp. 865-873. https://doi.org/10.18280/ts.380333
137	Bodile, R.M., Talari, V.K.H.R.	Removal of Power-Line Interference from ECG Using Decomposition Methodologies and Kalman Filter Framework: A Comparative Study	electrocardiogram, discrete wavelet transform, power-line interference, empirical mode decomposition, Kalman filter framework	38, 3, 875-881	https://doi.org/10.18280/ts.380334	Bodile, R.M., Talari, V.K.H.R. (2021). Removal of power-line interference from ECG using decomposition methodologies and Kalman filter framework: A comparative study. Traitement du Signal, Vol. 38, No. 3, pp. 875-881. https://doi.org/10.18280/ts.380334
138	Janga, V., Edara, S.R.	Epilepsy and Seizure Detection Using JLTM Based ICFFA and Multiclass SVM Classifier	MSVM, firefly optimization, seizure prediction, EEG, discrete wavelet transform (DWT), chaotic maps, JLTM	38, 3, 883-893	https://doi.org/10.18280/ts.380335	Janga, V., Edara, S.R. (2021). Epilepsy and seizure detection using JLTM based ICFFA and multiclass SVM classifier. Traitement du Signal, Vol. 38, No. 3, pp. 883-893. https://doi.org/10.18280/ts.380335
139	Qi, R.Q., Liu, Z.Q.	Extraction and Classification of Image Features for Fire Recognition Based on Convolutional Neural Network	fire recognition, convolutional neural network (CNN), flame feature extraction, smoke feature extraction	38, 3, 895-902	https://doi.org/10.18280/ts.380336	Qi, R.Q., Liu, Z.Q. (2021). Extraction and classification of image features for fire recognition based on convolutional neural network. Traitement du Signal, Vol. 38, No. 3, pp. 895-902. https://doi.org/10.18280/ts.380336

140	Naralasetti, V., Shaik, R.K., Katepalli, G., Bodapati, J.D.	Deep Learning Models for Pneumonia Identification and Classification Based on X-Ray Images	Convolutional Neural Network, Pneumonia Prediction, RELU, Sigmoid, Softmax, Deep Neural Network	38, 3, 903-909	https://doi.org/10.18280/ts.380337	Naralasetti, V., Shaik, R.K., Katepalli, G., Bodapati, J.D. (2021). Deep learning models for pneumonia identification and classification based on X-ray images. Traitement du Signal, Vol. 38, No. 3, pp. 903-909. https://doi.org/10.18280/ts.380337
141	Zhao, N.Y., Jiang, Y., Song, Y.	Recognition and Classification of Concrete Cracks under Strong Interference Based on Convolutional Neural Network	concrete cracks, image classification, convolutional neural network (CNN), block attention module	38, 3, 911-917	https://doi.org/10.18280/ts.380338	Zhao, N.Y., Jiang, Y., Song, Y. (2021). Recognition and classification of concrete cracks under strong interference based on convolutional neural network. Traitement du Signal, Vol. 38, No. 3, pp. 911-917. https://doi.org/10.18280/ts.380338
142	Abas, A.I., Baykan, N.A.	Multi-Focus Image Fusion with Multi-Scale Transform Optimized by Metaheuristic Algorithms	particle swarm optimization, bat algorithm, Laplacian pyramid, curvelet transform, image fusion	38, 2, 247-259	https://doi.org/10.18280/ts.380201	Abas, A.I., Baykan, N.A. (2021). Multi-focus image fusion with multi-scale transform optimized by metaheuristic algorithms. Traitement du Signal, Vol. 38, No. 2, pp. 247-259. https://doi.org/10.18280/ts.380201
143	Hrisca-Eva, O.D., Lazar, A.M.	Multi-Sessions Outcome for EEG Feature Extraction and Classification Methods in a Motor Imagery Task	electroencephalogram, motor imagery, features extraction, autoregressive process, amplitude modulation, phase synchronization, classification algorithms	38, 2, 261-268	https://doi.org/10.18280/ts.380202	Hrisca-Eva, O.D., Lazar, A.M. (2021). Multi-sessions outcome for EEG feature extraction and classification methods in a motor imagery task. Traitement du Signal, Vol. 38, No. 2, pp. 261-268. https://doi.org/10.18280/ts.380202
144	Özbay, E., Çınar, A., Özbay, F.A.	3D Human Activity Classification with 3D Zernike Moment Based Convolutional, LSTM-Deep Neural Networks	classification, CNN, DNN, LSTM, 3D human activity, 3D Zernike moment	38, 2, 269-280	https://doi.org/10.18280/ts.380203	Özbay, E., Çınar, A., Özbay, F.A. (2021). 3D human activity classification with 3D Zernike Moment based convolutional, LSTM-deep neural networks. Traitement du Signal, Vol. 38, No. 2, pp. 269-280. https://doi.org/10.18280/ts.380203
145	Bouida, A., Khelifi, M., Beladgham, M., Hamlili, F.Z.	Monte Carlo Optimization of a Combined Image Quality Assessment for Compressed Images Evaluation	image quality assessment, combined FR-IQA, texture analysis, edge evaluation, image wavelet compression	38, 2, 281-289	https://doi.org/10.18280/ts.380204	Bouida, A., Khelifi, M., Beladgham, M., Hamlili, F.Z. (2021). Monte Carlo optimization of a combined image quality assessment for compressed images evaluation. Traitement du Signal, Vol. 38, No. 2, pp. 281-289. https://doi.org/10.18280/ts.380204
146	Zhang, H.Y., Xu, D.Y., Qin, Y.B.	A Logarithmic Function-Based Novel Representation Algorithm for Image Classification	image classification, sparse representation, image representation, fusion method	38, 2, 291-297	https://doi.org/10.18280/ts.380205	Zhang, H.Y., Xu, D.Y., Qin, Y.B. (2021). A logarithmic function-based novel representation algorithm for image classification. Traitement du Signal, Vol. 38, No. 2, pp. 291-297. https://doi.org/10.18280/ts.380205
147	Verma, A., Gupta, V.K., Goel, S., Akbar, Yadav, A.K., Yadav, D.	Modeling Fingerprint Presentation Attack Detection Through Transient Liveness Factor-A Person Specific Approach	transient liveness factor (TLF), presentation attack detection (PAD), open-set approach	38, 2, 299-307	https://doi.org/10.18280/ts.380206	Verma, A., Gupta, V.K., Goel, S., Akbar, Yadav, A.K., Yadav, D. (2021). Modeling fingerprint presentation attack detection through Transient Liveness Factor-A person specific approach. Traitement du Signal, Vol. 38, No. 2, pp. 299-307. https://doi.org/10.18280/ts.380206
148	Elaraby, A., Elansary, I.	A Framework for Multi-Threshold Image Segmentation of Low Contrast Medical Images	medical image, segmentation, fuzzy hill entropy, differential evolution	38, 2, 309-314	https://doi.org/10.18280/ts.380207	Elaraby, A., Elansary, I. (2021). A framework for multi-threshold image segmentation of low contrast medical images. Traitement du Signal, Vol. 38, No. 2, pp. 309-314. https://doi.org/10.18280/ts.380207
149	Jiang, F.C., Zhang, H.Y., Zhu, C.	Three-Dimensional Target Detection Based on RGB-D Data	indoor RGB-D data, target detection, detection accuracy, frustum PointNet (F-PointNet)	38, 2, 315-320	https://doi.org/10.18280/ts.380208	Jiang, F.C., Zhang, H.Y., Zhu, C. (2021). Three-dimensional target detection based on RGB-D data. Traitement du Signal, Vol. 38, No. 2, pp. 315-320. https://doi.org/10.18280/ts.380208
150	Trimech, I.H., Maalej, A., Amara, N.E.B.	Facial Expression Recognition Using 3D Points Aware Deep Neural Network	3D facial expression recognition (3D FER), facial expression synthesis, facial surface representation, 3D point-based deep neural network (DNN)	38, 2, 321-330	https://doi.org/10.18280/ts.380209	Trimech, I.H., Maalej, A., Amara, N.E.B. (2021). Facial expression recognition using 3D points aware deep neural network. Traitement du Signal, Vol. 38, No. 2, pp. 321-330. https://doi.org/10.18280/ts.380209
151	Baykara, M., Abdulrahman, A.	Seizure Detection Based on Adaptive Feature Extraction by Applying Extreme Learning Machines	adaptive feature, EEG, extreme learning machines, pattern recognition, seizure detection	38, 2, 331-340	https://doi.org/10.18280/ts.380210	Baykara, M., Abdulrahman, A. (2021). Seizure detection based on adaptive feature extraction by applying extreme learning machines. Traitement du Signal, Vol. 38, No. 2, pp. 331-340. https://doi.org/10.18280/ts.380210
152	Ying, B.Y., Xu, Y.C., Zhang, S., Shi, Y.G., Liu, L.	Weed Detection in Images of Carrot Fields Based on Improved YOLO v4	YOLO v4, weed detection, carrot seedlings, attention mechanism	38, 2, 341-348	https://doi.org/10.18280/ts.380211	Ying, B.Y., Xu, Y.C., Zhang, S., Shi, Y.G., Liu, L. (2021). Weed detection in images of carrot fields based on improved YOLO v4. Traitement du Signal, Vol. 38, No. 2, pp. 341-348. https://doi.org/10.18280/ts.380211
153	Dendani, B., Bahi, H., Sari, T.	Self-Supervised Speech Enhancement for Arabic Speech Recognition in Real-World Environments	Arabic language, deep autoencoder, deep learning, self-supervised speech enhancement, speech recognition, ubiquitous systems	38, 2, 349-358	https://doi.org/10.18280/ts.380212	Dendani, B., Bahi, H., Sari, T. (2021). Self-supervised speech enhancement for Arabic speech recognition in real-world environments. Traitement du Signal, Vol. 38, No. 2, pp. 349-358. https://doi.org/10.18280/ts.380212
154	Li, P., Zhou, Z.J., Liu, Q.J., Sun, X.Y., Chen, F.M., Xue, W.	Machine Learning-Based Emotional Recognition in Surveillance Video Images in the Context of Smart City Safety	machine learning (ML), convolutional neural network (CNN), face expression identification, emotional identification, smart city safety	38, 2, 359-368	https://doi.org/10.18280/ts.380213	Li, P., Zhou, Z.J., Liu, Q.J., Sun, X.Y., Chen, F.M., Xue, W. (2021). Machine learning-based emotional recognition in surveillance video images in the context of smart city safety. Traitement du Signal, Vol. 38, No. 2, pp. 359-368. https://doi.org/10.18280/ts.380213
155	Ekim, G., Atasoy, A., İkizler, N.	A New Approach for Eye-Blink to Speech Conversion by Dynamic Time Warping	amyotrophic lateral sclerosis, dynamic time warping, eye-blink detection, eye-blink to speech	38, 2, 369-377	https://doi.org/10.18280/ts.380214	Ekim, G., Atasoy, A., İkizler, N. (2021). A new approach for eye-blink to speech conversion by dynamic time warping. Traitement du Signal, Vol. 38, No. 2, pp. 369-377. https://doi.org/10.18280/ts.380214
156	Darapureddy, N., Karatapu, N., Battula, T.K.	Comparative Analysis of Texture Patterns on Mammograms for Classification	texture patterns, classification, machine learning algorithms, accuracy, local binary pattern variants, mammograms, local directional order pattern, local wavelet pattern	38, 2, 379-386	https://doi.org/10.18280/ts.380215	Darapureddy, N., Karatapu, N., Battula, T.K. (2021). Comparative analysis of texture patterns on mammograms for classification. Traitement du Signal, Vol. 38, No. 2, pp. 379-386. https://doi.org/10.18280/ts.380215
157	Hua, J., Xiao, Q.K., Wang, L., Liu, Y.X., Ning, X.H.	Recognition of Electromyographic Signal Time Series on Daily Hand Motions Based on Long Short-Term Memory Network	surface electromyographic (sEMG) signals, EMG signal analysis, long short-term memory (LSTM), action recognition	38, 2, 387-394	https://doi.org/10.18280/ts.380216	Hua, J., Xiao, Q.K., Wang, L., Liu, Y.X., Ning, X.H. (2021). Recognition of electromyographic signal time series on daily hand motions based on long short-term memory network. Traitement du Signal, Vol. 38, No. 2, pp. 387-394. https://doi.org/10.18280/ts.380216
158	Wang, H.L., Wu, F., Zhang, L.	Fault Diagnosis of Rolling Bearings Based on Improved Empirical Mode Decomposition and Fuzzy C-Means Algorithm	rolling bearings, variational modal decomposition (VMD), fuzzy C-means (FCM) algorithm, fault identification	38, 2, 395-400	https://doi.org/10.18280/ts.380217	Wang, H.L., Wu, F., Zhang, L. (2021). Fault diagnosis of rolling bearings based on improved empirical mode decomposition and fuzzy C-means algorithm. Traitement du Signal, Vol. 38, No. 2, pp. 395-400. https://doi.org/10.18280/ts.380217
159	Ekmen, Ş., Karadoğan, C., Şeker, Ş.S.	Investigation of Timbral Qualities of Guitar Using Wavelet Analysis	wavelet analysis, digital signal processing, continuous wavelet transform, wavelet packet transform, guitar analysis, timbre, piezo-film sensors	38, 2, 401-411	https://doi.org/10.18280/ts.380218	Ekmen, Ş., Karadoğan, C., Şeker, Ş.S. (2021). Investigation of timbral qualities of guitar using wavelet analysis. Traitement du Signal, Vol. 38, No. 2, pp. 401-411. https://doi.org/10.18280/ts.380218

160	Patchala, S., Maruvada, S.	Filter Bank Multi Carrier Signal System for Frequency Selective Channels	FBMC, MIMO, OFDM, multicarrier regulation frameworks, noise aggravations, spectrum	38, 2, 413-420	https://doi.org/10.18280/ts.380219	Patchala, S., Maruvada, S. (2021). Filter bank multi carrier signal system for frequency selective channels. Traitement du Signal, Vol. 38, No. 2, pp. 413-420. https://doi.org/10.18280/ts.380219
161	He, Y.J.	Fast Job Recognition and Sorting Based on Image Processing	image processing, fast job recognition, job sorting, echo state network (ESN)	38, 2, 421-429	https://doi.org/10.18280/ts.380220	He, Y.J. (2021). Fast job recognition and sorting based on image processing. Traitement du Signal, Vol. 38, No. 2, pp. 421-429. https://doi.org/10.18280/ts.380220
162	Gurrala, V., Yarlagadda, P., Koppireddi, P.	Detection of Sleep Apnea Based on the Analysis of Sleep Stages Data Using Single Channel EEG	electroencephalogram (EEG), sleep stages, sleep disorders, sleep apnea, machine learning classifiers	38, 2, 431-436	https://doi.org/10.18280/ts.380221	Gurrala, V., Yarlagadda, P., Koppireddi, P. (2021). Detection of sleep apnea based on the analysis of sleep stages data using single channel EEG. Traitement du Signal, Vol. 38, No. 2, pp. 431-436. https://doi.org/10.18280/ts.380221
163	Ervural, S., Ceylan, M.	Convolutional Neural Networks-Based Approach to Detect Neonatal Respiratory System Anomalies with Limited Thermal Image	convolutional neural networks, data augmentation. infrared thermography, neonatal disease classification. pre-diagnosis system, respiratory system anomalies	38, 2, 437-442	https://doi.org/10.18280/ts.380222	Ervural, S., Ceylan, M. (2021). Convolutional neural networks-based approach to detect neonatal respiratory system anomalies with limited thermal image. Traitement du Signal, Vol. 38, No. 2, pp. 437-442. https://doi.org/10.18280/ts.380222
164	Raju, M.N., Natarajan, K., Vasamsetty, C.S.	Object Recognition in Remote Sensing Images Based on Modified Backpropagation Neural Network	remote sensing, object detection, neural network, deep learning, image data	38, 2, 451-459	https://doi.org/10.18280/ts.380224	Raju, M.N., Natarajan, K., Vasamsetty, C.S. (2021). Object recognition in remote sensing images based on modified backpropagation neural network. Traitement du Signal, Vol. 38, No. 2, pp. 451-459. https://doi.org/10.18280/ts.380224
165	Padhee, S., Nandan, D.	Design of Automated Visual Inspection System for Beverage Industry Production Line	automated visual inspection system, coverage industry production line, visual inspection, image processing	38, 2, 461-466	https://doi.org/10.18280/ts.380225	Padhee, S., Nandan, D. (2021). Design of automated visual inspection system for beverage industry production line. Traitement du Signal, Vol. 38, No. 2, pp. 461-466. https://doi.org/10.18280/ts.380225
166	Wang, X.	Recognition and Positioning of Container Lock Holes for Intelligent Handling Terminal Based on Convolutional Neural Network	convolutional neural network (CNN), feature extraction, target detection, sliding window, automated terminal	38, 2, 467-472	https://doi.org/10.18280/ts.380226	Wang, X. (2021). Recognition and positioning of container lock holes for intelligent handling terminal based on convolutional neural network. Traitement du Signal, Vol. 38, No. 2, pp. 467-472. https://doi.org/10.18280/ts.380226
167	Gupta, A.K., Chakraborty, C., Gupta, B.	Secure Transmission of EEG Data Using Watermarking Algorithm for the Detection of Epileptical Seizures	DWT-DCT-BFO, EEG, healthcare, Internet of Things, patients monitoring, short time Fourier transform, watermarking	38, 2, 473-479	https://doi.org/10.18280/ts.380227	Gupta, A.K., Chakraborty, C., Gupta, B. (2021). Secure transmission of EEG data using watermarking algorithm for the detection of epileptical seizures. Traitement du Signal, Vol. 38, No. 2, pp. 473-479. https://doi.org/10.18280/ts.380227
168	Guan, Y.R., Aamir, M., Hu, Z.H., Abro, W.A., Rahman, Z., Dayo, Z.A., Akram, S.	A Region-Based Efficient Network for Accurate Object Detection	object detection, object classification, proposal generation, proposal refinement, proposal classification	38, 2, 481-494	https://doi.org/10.18280/ts.380228	Guan, Y.R., Aamir, M., Hu, Z.H., Abro, W.A., Rahman, Z., Dayo, Z.A., Akram, S. (2021). A region-based efficient network for accurate object detection. Traitement du Signal, Vol. 38, No. 2, pp. 481-494. https://doi.org/10.18280/ts.380228
169	Kumar, I., Mishra, R.K.	An Investigation of Spectral Efficiency in Linear MRC and MMSE Detectors with Perfect and Imperfect CSI for Massive MIMO Systems	channel capacity, maximum-ratio combining, minimum mean square error, MU multiple input multiple output, spectral efficiency, massive multiple input multiple output	38, 2, 495-501	https://doi.org/10.18280/ts.380229	Kumar, I., Mishra, R.K. (2021). An investigation of spectral efficiency in linear MRC and MMSE detectors with perfect and imperfect CSI for massive MIMO systems. Traitement du Signal, Vol. 38, No. 2, pp. 495-501. https://doi.org/10.18280/ts.380229
170	Zou, J., Zhang, C., Ma, Z.J.	An Image Classification Algorithm for Plantar Pressure Based on Convolutional Neural Network	plantar pressure (PP) analysis, convolutional neural network (CNN), feature selection, feature extraction	38, 2, 503-511	https://doi.org/10.18280/ts.380230	Zou, J., Zhang, C., Ma, Z.J. (2021). An image classification algorithm for plantar pressure based on convolutional neural network. Traitement du Signal, Vol. 38, No. 2, pp. 503-511. https://doi.org/10.18280/ts.380230
171	Huang, Q.H.	An Image Sharpness Enhancement Algorithm Based on Green Function	image enhancement, green function, Poisson equation, gradient domain	38, 2, 513-519	https://doi.org/10.18280/ts.380231	Huang, Q.H. (2021). An image sharpness enhancement algorithm based on green function. Traitement du Signal, Vol. 38, No. 2, pp. 513-519. https://doi.org/10.18280/ts.380231
172	Sadanandam, M.	HMM Based Language Identification from Speech Utterances of Popular Indic Languages Using Spectral and Prosodic Features	Language Identification System (LID), acoustic features, prosodic features, HMM, Indian spoken languages, pitch and MFCC	38, 2, 521-528	https://doi.org/10.18280/ts.380232	Sadanandam, M. (2021). HMM based language identification from speech utterances of popular Indic languages using spectral and prosodic features. Traitement du Signal, Vol. 38, No. 2, pp. 521-528. https://doi.org/10.18280/ts.380232
173	Zhu, F.L., Zhu, R.C.	Dance Action Recognition and Pose Estimation Based on Deep Convolutional Neural Network	Language Identification System (LID), acoustic features, prosodic features, HMM, Indian spoken languages, pitch and MFCC	38, 2, 529-538	https://doi.org/10.18280/ts.380233	Zhu, F.L., Zhu, R.C. (2021). Dance action recognition and pose estimation based on deep convolutional neural network. Traitement du Signal, Vol. 38, No. 2, pp. 529-538. https://doi.org/10.18280/ts.380233
174	İş, H., Tuncer, T.	A Profile Analysis of User Interaction in Social Media Using Deep Learning	social media analysis, interaction evaluation, deep learning, profile analysis	38, 1, 1-11	https://doi.org/10.18280/ts.380101	İş, H., Tuncer, T. (2021). A profile analysis of user interaction in social media using deep learning. Traitement du Signal, Vol. 38, No. 1, pp. 1-11. https://doi.org/10.18280/ts.380101
175	Akbari, H., Sadiq, M.T., Payan, M., Esmaili, S.S., Baghri, H., Bagheri, H.	Depression Detection Based on Geometrical Features Extracted from SODP Shape of EEG Signals and Binary PSO	electroencephalogram signal, depression, second-order differential plot, geometrical features, EEG classification	38, 1, 13-26	https://doi.org/10.18280/ts.380102	Akbari, H., Sadiq, M.T., Payan, M., Esmaili, S.S., Baghri, H., Bagheri, H. (2021). Depression detection based on geometrical features extracted from SODP shape of EEG signals and binary PSO. Traitement du Signal, Vol. 38, No. 1, pp. 13-26. https://doi.org/10.18280/ts.380102
176	Zhu, J.C., Zhao, S.J., Wu, D.	Classification of Remote Sensing Images Through Reweighted Sparse Subspace Representation Using Compressed Data	coherence-based coded aperture, reweighted sparse subspace clustering (RSSC), spectral image clustering	38, 1, 27-37	https://doi.org/10.18280/ts.380103	Zhu, J.C., Zhao, S.J., Wu, D. (2021). Classification of remote sensing images through reweighted sparse subspace representation using compressed data. Traitement du Signal, Vol. 38, No. 1, pp. 27-37. https://doi.org/10.18280/ts.380103
177	Al-Ameen, Z.	Contrast Enhancement of Digital Images Using an Improved Type-II Fuzzy Set-Based Algorithm	contrast enhancement, type-II fuzzy, color image, image enhancement, grayscale image, image processing	38, 1, 39-50	https://doi.org/10.18280/ts.380104	Al-Ameen, Z. (2021). Contrast enhancement of digital images using an improved type-II fuzzy set-based algorithm. Traitement du Signal, Vol. 38, No. 1, pp. 39-50. https://doi.org/10.18280/ts.380104
178	Ergin, S., Isik, S., Gulmezoglu, M.B.	Face Recognition by Using 2D Orthogonal Subspace Projections	face recognition, common matrix approach, support vector machine, convolutional neural networks, 2D feature extraction	38, 1, 51-60	https://doi.org/10.18280/ts.380105	Ergin, S., Isik, S., Gulmezoglu, M.B. (2021). Face recognition by using 2D orthogonal subspace projections. Traitement du Signal, Vol. 38, No. 1, pp. 51-60. https://doi.org/10.18280/ts.380105
179	Zhang, X.R., Chen, G.	Detection of Dense Small Rigid Targets Based on Convolutional Neural Network and Synthetic Images	target recognition, artificial data, rice planthoppers, deep learning (DL), convolutional neural network (CNN), faster region-based CNN (Faster-RCNN)	38, 1, 61-71	https://doi.org/10.18280/ts.380106	Zhang, X.R., Chen, G. (2021). Detection of dense small rigid targets based on convolutional neural network and synthetic images. Traitement du Signal, Vol. 38, No. 1, pp. 61-71. https://doi.org/10.18280/ts.380106

180	Hadiyoso, S., Wijayanto, I., Humairani, A.	Signal Dynamics Analysis for Epileptic Seizure Classification on EEG Signals	epilepsy, EEG, dynamics, entropy, fractal, Naïve Bayes	38, 1, 73-78	https://doi.org/10.18280/ts.380107	Hadiyoso, S., Wijayanto, I., Humairani, A. (2021). Signal dynamics analysis for epileptic seizure classification on EEG signals. Traitement du Signal, Vol. 38, No. 1, pp. 73-78. https://doi.org/10.18280/ts.380107
181	Wagle, S.A., R, H.	Comparison of Plant Leaf Classification Using Modified AlexNet and Support Vector Machine	AlexNet, convolutional neural network, support vector machine	38, 1, 79-87	https://doi.org/10.18280/ts.380108	Wagle, S.A., R, H. (2021). Comparison of plant leaf classification using modified AlexNet and support vector machine. Traitement du Signal, Vol. 38, No. 1, pp. 79-87. https://doi.org/10.18280/ts.380108
182	Xie, Y.F., Zhang, S., Liu, Y.D.	Abnormal Behavior Recognition in Classroom Pose Estimation of College Students Based on Spatiotemporal Representation Learning	artificial intelligence, college students, pose estimation, spatiotemporal representation learning, k-means clustering (KMC), convolutional neural network (CNN)	38, 1, 89-95	https://doi.org/10.18280/ts.380109	Xie, Y.F., Zhang, S., Liu, Y.D. (2021). Abnormal behavior recognition in classroom pose estimation of college students based on spatiotemporal representation learning. Traitement du Signal, Vol. 38, No. 1, pp. 89-95. https://doi.org/10.18280/ts.380109
183	Amrane, R., Brik, Y., Zeghlache, S., Ladjal, M., Chicouche, D.	Sampling Rate Optimization for Improving the Cascaded Integrator Comb Filter Characteristics	CIC filter, FIR, frequency response, optimization, sampling rate, filter sharpening	38, 1, 97-103	https://doi.org/10.18280/ts.380110	Amrane, R., Brik, Y., Zeghlache, S., Ladjal, M., Chicouche, D. (2021). Sampling rate optimization for improving the cascaded integrator comb filter characteristics. Traitement du Signal, Vol. 38, No. 1, pp. 97-103. https://doi.org/10.18280/ts.380110
184	Xiao, L.Q.	Design and Optimization of a Finite Element Model for Electrical Resistance Tomography of Human Lungs	human lungs, electrical resistance tomography (ERT), finite element model, forward problem, sensitivity matrix, image reconstruction	38, 1, 105-113	https://doi.org/10.18280/ts.380111	Xiao, L.Q. (2021). Design and optimization of a finite element model for electrical resistance tomography of human lungs. Traitement du Signal, Vol. 38, No. 1, pp. 105-113. https://doi.org/10.18280/ts.380111
185	Dikmen, O., Kulaç, S.	Investigation of Ideal Number User Terminals with Spectrum Efficiency in Next Generation Wireless Communication Systems	massive MIMO, spectrum efficiency, multicellular system, user equipment, pilot reuse factor, 6G	38, 1, 115-126	https://doi.org/10.18280/ts.380112	Dikmen, O., Kulaç, S. (2021). Investigation of ideal number user terminals with spectrum efficiency in next generation wireless communication systems. Traitement du Signal, Vol. 38, No. 1, pp. 115-126. https://doi.org/10.18280/ts.380112
186	Lin, C., Xu, X.P.	An Electronic Bill Encryption Algorithm Based on Multiple Watermark Encryption	digital image watermarking, multiple watermark encryption, electronic bill	38, 1, 127-133	https://doi.org/10.18280/ts.380113	Lin, C., Xu, X.P. (2021). An electronic bill encryption algorithm based on multiple watermark encryption. Traitement du Signal, Vol. 38, No. 1, pp. 127-133. https://doi.org/10.18280/ts.380113
187	Thazeen, S., Mallikarjunaswamy, S., Siddesh, G.K., Sharmila, N.	Conventional and Subspace Algorithms for Mobile Source Detection and Radiation Formation	the direction of arrival, beamforming, mobile source detection, radiation formation	38, 1, 135-145	https://doi.org/10.18280/ts.380114	Thazeen, S., Mallikarjunaswamy, S., Siddesh, G.K., Sharmila, N. (2021). Conventional and subspace algorithms for mobile source detection and radiation formation. Traitement du Signal, Vol. 38, No. 1, pp. 135-145. https://doi.org/10.18280/ts.380114
188	Özyurt, F.	Automatic Detection of COVID-19 Disease by Using Transfer Learning of Light Weight Deep Learning Model	COVID-19, deep learning, Shufflenet, transfer learning, feature reduction	38, 1, 147-153	https://doi.org/10.18280/ts.380115	Özyurt, F. (2021). Automatic detection of COVID-19 disease by using transfer learning of light weight deep learning model. Traitement du Signal, Vol. 38, No. 1, pp. 147-153. https://doi.org/10.18280/ts.380115
189	Li, S.L., Chai, H.Q.	Recognition of Teaching Features and Behaviors in Online Open Courses Based on Image Processing	image processing, online open courses, teaching features, teaching behavior recognition	38, 1, 155-164	https://doi.org/10.18280/ts.380116	Li, S.L., Chai, H.Q. (2021). Recognition of teaching features and behaviors in online open courses based on image processing. Traitement du Signal, Vol. 38, No. 1, pp. 155-164. https://doi.org/10.18280/ts.380116
190	Çınar, A., Yıldırım, M., Eroğlu, Y.	Classification of Pneumonia Cell Images Using Improved ResNet50 Model	CNN, deep learning, machine learning, Pneumonia, transfer learning	38, 1, 165-173	https://doi.org/10.18280/ts.380117	Çınar, A., Yıldırım, M., Eroğlu, Y. (2021). Classification of pneumonia cell images using improved ResNet50 model. Traitement du Signal, Vol. 38, No. 1, pp. 165-173. https://doi.org/10.18280/ts.380117
191	Hadiyoso, S., Rizal, A.	Empirical Mode Decomposition and Grey Level Difference for Lung Sound Classification	lung sound, EMD, GLD, MLP	38, 1, 175-179	https://doi.org/10.18280/ts.380118	Hadiyoso, S., Rizal, A. (2021). Empirical mode decomposition and grey level difference for lung sound classification. Traitement du Signal, Vol. 38, No. 1, pp. 175-179. https://doi.org/10.18280/ts.380118
192	Wei, Z.F., Zhang, X.H.	Feature Extraction and Retrieval of Ecommerce Product Images Based on Image Processing	image processing, ecommerce, image feature extraction, image retrieval	38, 1, 181-190	https://doi.org/10.18280/ts.380119	Wei, Z.F., Zhang, X.H. (2021). Feature extraction and retrieval of ecommerce product images based on image processing. Traitement du Signal, Vol. 38, No. 1, pp. 181-190. https://doi.org/10.18280/ts.380119
193	Pendyala, G.K.V., Kalluri, H.K., Rao, V.C.	An Efficient Multi-stage Object-Based Classification to Extract Urban Building Footprints from HR Satellite Images	nDSM, NDVI, object-based classification, thresholding, urban building classification	38, 1, 191-196	https://doi.org/10.18280/ts.380120	Pendyala, G.K.V., Kalluri, H.K., Rao, V.C. (2021). An efficient multi-stage object-based classification to extract urban building footprints from HR satellite images. Traitement du Signal, Vol. 38, No. 1, pp. 191-196. https://doi.org/10.18280/ts.380120
194	Zhang, Q., Liu, Y., Liu, L., Lu, S., Feng, Y.X., Yu, X.	Location Identification and Personalized Recommendation of Tourist Attractions Based on Image Processing	image processing, tourist attractions, location identification, personalized recommendation	38, 1, 197-205	https://doi.org/10.18280/ts.380121	Zhang, Q., Liu, Y., Liu, L., Lu, S., Feng, Y.X., Yu, X. (2021). Location identification and personalized recommendation of tourist attractions based on image processing. Traitement du Signal, Vol. 38, No. 1, pp. 197-205. https://doi.org/10.18280/ts.380121
195	Şüyun, S.B., Taşdemir, Ş., Biliş, S., Milea, A.	Using a Deep Learning System That Classifies Hypertensive Retinopathy Based on the Fundus Images of Patients of Wide Age	hypertensive retinopathy, convolutional neural networks, deep learning, fundus images, eye diseases, macular degeneration	38, 1, 207-213	https://doi.org/10.18280/ts.380122	Şüyun, S.B., Taşdemir, Ş., Biliş, S., Milea, A. (2021). Using a deep learning system that classifies hypertensive retinopathy based on the fundus images of patients of wide age. Traitement du Signal, Vol. 38, No. 1, pp. 207-213. https://doi.org/10.18280/ts.380122
196	Wu, B., Wang, C.M., Huang, W., Huang, D., Peng, H.	Recognition of Student Classroom Behaviors Based on Moving Target Detection	image processing, behavior recognition, moving target detection, image segmentation, student classroom behaviors	38, 1, 215-220	https://doi.org/10.18280/ts.380123	Wu, B., Wang, C.M., Huang, W., Huang, D., Peng, H. (2021). Recognition of student classroom behaviors based on moving target detection. Traitement du Signal, Vol. 38, No. 1, pp. 215-220. https://doi.org/10.18280/ts.380123
197	Nair, A.M.S.U., Savithri, S.P.	Classification of Pitch and Gender of Speakers for Forensic Speaker Recognition from Disguised Voices Using Novel Features Learned by Deep Convolutional Neural Networks	deep convolutional neural network, FASR, Mel-spectrogram, MFCC, pitch disguise	38, 1, 221-230	https://doi.org/10.18280/ts.380124	Nair, A.M.S.U., Savithri, S.P. (2021). Classification of pitch and gender of speakers for forensic speaker recognition from disguised voices using novel features learned by deep convolutional neural networks. Traitement du Signal, Vol. 38, No. 1, pp. 221-230. https://doi.org/10.18280/ts.380124
198	Chen, L., Ding, J.F.	Analysis on Food Crispness Based on Time and Frequency Domain Features of Acoustic Signal	food crispness, acoustic signal, wavelet denoising, backpropagation (BP) neural network	38, 1, 231-238	https://doi.org/10.18280/ts.380125	Chen, L., Ding, J.F. (2021). Analysis on food crispness based on time and frequency domain features of acoustic signal. Traitement du Signal, Vol. 38, No. 1, pp. 231-238. https://doi.org/10.18280/ts.380125
199	Krishna, K.V.S.S.R., Chaitanya, K., Subhashini, P.P.S., Yamparala, R., Kanumalli, S.S.	Classification of Glaucoma Optical Coherence Tomography (OCT) Images Based on Blood Vessel Identification Using CNN and Firefly Optimization	convolutional neural network (CNN), firefly optimization, glaucoma, blood vessel	38, 1, 239-245	https://doi.org/10.18280/ts.380126	Krishna, K.V.S.S.R., Chaitanya, K., Subhashini, P.P.S., Yamparala, R., Kanumalli, S.S. (2021). Classification of glaucoma Optical Coherence Tomography (OCT) images based on blood vessel identification using CNN and firefly optimization. Traitement du Signal, Vol. 38, No. 1, pp. 239-245. https://doi.org/10.18280/ts.380126

200	Rabah, C.B., Coatrieux, G., Abdelfattah, R.	Boosting up source scanner identification using wavelets and convolutional neural networks	conventional neural networks, digital content forensics, image wavelet analysis, source scanner identification	37, 6, 881-888	https://doi.org/10.18280/ts.370601	Rabah, C.B., Coatrieux, G., Abdelfattah, R. (2020). Boosting up source scanner identification using wavelets and convolutional neural networks. Traitement du Signal, Vol. 37, No. 6, pp. 881-888. https://doi.org/10.18280/ts.370601
201	Herbadji, A., Guermat, N., Ziet, L., Akhtar, Z., Cheniti, M., Herbadji, D.	Contactless multi-biometric system using fingerprint and palmprint selfies	COVID-19, multi-biometrics, score fusion, contactless fingerprint, contactless palmprint, BSIF, person authentication	37, 6, 889-897	https://doi.org/10.18280/ts.370602	Herbadji, A., Guermat, N., Ziet, L., Akhtar, Z., Cheniti, M., Herbadji, D. (2020). Contactless multi-biometric system using fingerprint and palmprint selfies. Traitement du Signal, Vol. 37, No. 6, pp. 889-897. https://doi.org/10.18280/ts.370602
202	Vrtagić, S., Softić, E., Ponjavić, M., Stević, Ž., Subotić, M., Gmanjunath, A., Kevric, J.	Video data extraction and processing for investigation of vehicles' impact on the asphalt deformation through the prism of computational algorithms	Histogram of Oriented Gradients (HOG), machine learning, Support Vector Machines (SVM), video processing, asphalt deformation	37, 6, 899-906	https://doi.org/10.18280/ts.370603	Vrtagić, S., Softić, E., Ponjavić, M., Stević, Ž., Subotić, M., Gmanjunath, A., Kevric, J. (2020). Video data extraction and processing for investigation of vehicles' impact on the asphalt deformation through the prism of computational algorithms. Traitement du Signal, Vol. 37, No. 6, pp. 899-906. https://doi.org/10.18280/ts.370603
203	Aydin, I., Kaner, S.	A new hybrid diagnosis of bearing faults based on time-frequency images and sparse representation	bearing faults, classification, extreme learning machine with sparse classifier, fault diagnosis, feature extraction, time-frequency images	37, 6, 907-918	https://doi.org/10.18280/ts.370604	Aydin, I., Kaner, S. (2020). A new hybrid diagnosis of bearing faults based on time-frequency images and sparse representation. Traitement du Signal, Vol. 37, No. 6, pp. 907-918. https://doi.org/10.18280/ts.370604
204	Liu, S.H., Shi, L.L., Xu, W.Y.	Projected Wirtinger gradient descent for digital waves reconstruction	signal recovery, Hankel Matrix Completion (HMC), feasible-point algorithm, fast iterative shrinkage-thresholding (FIST) algorithm	37, 6, 919-927	https://doi.org/10.18280/ts.370605	Liu, S.H., Shi, L.L., Xu, W.Y. (2020). Projected Wirtinger gradient descent for digital waves reconstruction. Traitement du Signal, Vol. 37, No. 6, pp. 919-927. https://doi.org/10.18280/ts.370605
205	Yang, X.Y., Liang, N.N., Zhou, W., Lu, H.M.	A face detection method based on skin color model and improved AdaBoost algorithm	face detection, image processing, skin color model, AdaBoost algorithm	37, 6, 929-937	https://doi.org/10.18280/ts.370606	Yang, X.Y., Liang, N.N., Zhou, W., Lu, H.M. (2020). A face detection method based on skin color model and improved AdaBoost algorithm. Traitement du Signal, Vol. 37, No. 6, pp. 929-937. https://doi.org/10.18280/ts.370606
206	Sahin, M.E., Guler, H., Hamamci, S.E.	Design and realization of a hyperchaotic memristive system for communication system on FPGA	chaos, circuit implementation, communication systems, FPGA, memristor, optimization	37, 6, 939-953	https://doi.org/10.18280/ts.370607	Sahin, M.E., Guler, H., Hamamci, S.E. (2020). Design and realization of a hyperchaotic memristive system for communication system on FPGA. Traitement du Signal, Vol. 37, No. 6, pp. 939-953. https://doi.org/10.18280/ts.370607
207	Nouioua, N., Seddiki, A., Ghaz, A.	Blind digital watermarking framework based on DTCWT and NSCT for telemedicine application	blind watermarking, DTCWT, NSCT, quantization, robust, telemedicine	37, 6, 955-964	https://doi.org/10.18280/ts.370608	Nouioua, N., Seddiki, A., Ghaz, A. (2020). Blind digital watermarking framework based on DTCWT and NSCT for telemedicine application. Traitement du Signal, Vol. 37, No. 6, pp. 955-964. https://doi.org/10.18280/ts.370608
208	Chen, D.	Multiple linear regression of multi-class images in devices of internet of things	internet of things (IoT), multiple classes, image recognition, multiple linear regression (MLR), convolutional neural network (CNN)	37, 6, 965-973	https://doi.org/10.18280/ts.370609	Chen, D. (2020). Multiple linear regression of multi-class images in devices of internet of things. Traitement du Signal, Vol. 37, No. 6, pp. 965-973. https://doi.org/10.18280/ts.370609
209	Mousavi, S., Kara, D.B., Seker, S.S.	Integrated fault evaluation through fusion algorithm supported by Kalman filter	Kalman filter, vibration signal, aging process, sensor validation, data fusion, fault detection, health information	37, 6, 975-987	https://doi.org/10.18280/ts.370610	Mousavi, S., Kara, D.B., Seker, S.S. (2020). Integrated fault evaluation through fusion algorithm supported by Kalman filter. Traitement du Signal, Vol. 37, No. 6, pp. 975-987. https://doi.org/10.18280/ts.370610
210	Bhatele, K.R., Bhadauria, S.S.	Glioma segmentation and classification system based on proposed texture features extraction method and hybrid ensemble learning	Thresholding, High Grade Glioma (HGG), Low Grade Glioma (LGG), DWT (Discrete wavelet transform), LBP (Local Binary pattern), GLRLM (Gray level run length Matrix) Enhanced wavelet binary pattern run length matrix method (EWBPRL), XGBoost with Random forest (XBGRF)	37, 6, 989-1001	https://doi.org/10.18280/ts.370611	Bhatele, K.R., Bhadauria, S.S. (2020). Glioma segmentation and classification system based on proposed texture features extraction method and hybrid ensemble learning. Traitement du Signal, Vol. 37, No. 6, pp. 989-1001. https://doi.org/10.18280/ts.370611
211	Yu, L., Zhang, B.L., Li, R.	Detection of unusual targets in traffic images based on one-class extreme machine learning	traffic images, multiple levels, extreme learning machine (ELM), semi-supervised learning	37, 6, 1003-1008	https://doi.org/10.18280/ts.370612	Yu, L., Zhang, B.L., Li, R. (2020). Detection of unusual targets in traffic images based on one-class extreme machine learning. Traitement du Signal, Vol. 37, No. 6, pp. 1003-1008. https://doi.org/10.18280/ts.370612
212	Li, Z., Han, X., Wang, L.Y., Zhu, T.Y., Yuan, F.T.	Feature extraction and image retrieval of landscape images based on image processing	landscape image, color feature extraction, image retrieval, image processing	37, 6, 1009-1018	https://doi.org/10.18280/ts.370613	Li, Z., Han, X., Wang, L.Y., Zhu, T.Y., Yuan, F.T. (2020). Feature extraction and image retrieval of landscape images based on image processing. Traitement du Signal, Vol. 37, No. 6, pp. 1009-1018. https://doi.org/10.18280/ts.370613
213	Saglam, A., Makineci, H.B., Baykan, Ö.K., Baykan, N.A.	Clustering-based plane refitting of non-planar patches for voxel-based 3D point cloud segmentation using k-means clustering	plane fitting, plane refitting, point cloud segmentation, plane clustering, k-means clustering, standard deviation thresholding	37, 6, 1019-1027	https://doi.org/10.18280/ts.370614	Saglam, A., Makineci, H.B., Baykan, Ö.K., Baykan, N.A. (2020). Clustering-based plane refitting of non-planar patches for voxel-based 3D point cloud segmentation using k-means clustering. Traitement du Signal, Vol. 37, No. 6, pp. 1019-1027. https://doi.org/10.18280/ts.370614
214	Shafiei, F., Fekri-Ershad, S.	Detection of lung cancer tumor in CT scan images using novel combination of super pixel and active contour algorithms	lung cancer tumor, CT scan images, super pixel algorithm, morphological operations, active contour	37, 6, 1029-1035	https://doi.org/10.18280/ts.370615	Shafiei, F., Fekri-Ershad, S. (2020). Detection of lung cancer tumor in CT scan images using novel combination of super pixel and active contour algorithms. Traitement du Signal, Vol. 37, No. 6, pp. 1029-1035. https://doi.org/10.18280/ts.370615
215	Zhang, J., Feng, M.Q., Wang, Y.	Automatic segmentation of remote sensing images on water bodies based on image enhancement	image enhancement, remote sensing image, water bodies, image segmentation, adaptive morphology	37, 6, 1037-143	https://doi.org/10.18280/ts.370616	Zhang, J., Feng, M.Q., Wang, Y. (2020). Automatic segmentation of remote sensing images on water bodies based on image enhancement. Traitement du Signal, Vol. 37, No. 6, pp. 1037-1043. https://doi.org/10.18280/ts.370616
216	Toraman, S.	Preictal and interictal recognition for epileptic seizure prediction using pre-trained 2D-CNN models	biomedical image processing, EEG, epilepsy, preictal, convolutional neural network, deep learning	37, 6, 1045-1054	https://doi.org/10.18280/ts.370617	Toraman, S. (2020). Preictal and interictal recognition for epileptic seizure prediction using pre-trained 2D-CNN models. Traitement du Signal, Vol. 37, No. 6, pp. 1045-1054. https://doi.org/10.18280/ts.370617
217	Dong, J.F., Li, X.	An image classification algorithm of financial instruments based on convolutional neural network	financial instruments, convolutional neural network (CNN), image classification, momentum weight update, weight attenuation	37, 6, 1055-1060	https://doi.org/10.18280/ts.370618	Dong, J.F., Li, X. (2020). An image classification algorithm of financial instruments based on convolutional neural network. Traitement du Signal, Vol. 37, No. 6, pp. 1055-1060. https://doi.org/10.18280/ts.370618
218	Bhardwaj, L., Mishra, R.K.	Mitigating the interference caused by pilot contamination in multi-cell massive multiple input multiple output systems using low density parity check codes in uplink scenario	massive MIMO, Multi Cell MIMO, low density parity check codes (LDPC), pilot contamination, channel estimation, channel vector	37, 6, 1061-1074	https://doi.org/10.18280/ts.370619	Bhardwaj, L., Mishra, R.K. (2020). Mitigating the interference caused by pilot contamination in multi-cell massive multiple input multiple output systems using low density parity check codes in uplink scenario. Traitement du Signal, Vol. 37, No. 6, pp. 1061-1074. https://doi.org/10.18280/ts.370619

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220	Wang, Y.N., Yang, Y.M., Li, Y.	Recognition and difference analysis of human walking gaits based on intelligent processing of video images	gait recognition, lower limb motions, residual network, gait difference	37, 6, 1085-1091	https://doi.org/10.18280/ts.370621	Wang, Y.N., Yang, Y.M., Li, Y. (2020). Recognition and difference analysis of human walking gaits based on intelligent processing of video images. Traitement du Signal, Vol. 37, No. 6, pp. 1085-1091. https://doi.org/10.18280/ts.370621
221	Yadav, D., Akanksha, Yadav, A.K.	A novel convolutional neural network based model for recognition and classification of apple leaf diseases	plants, apple, contrast stretching, fuzzy c-means, CNN, disease diagnosis	37, 6, 1093-1101	https://doi.org/10.18280/ts.370622	Yadav, D., Akanksha, Yadav, A.K. (2020). A novel convolutional neural network based model for recognition and classification of apple leaf diseases. Traitement du Signal, Vol. 37, No. 6, pp. 1093-1101. https://doi.org/10.18280/ts.370622
222	Wang, S.W., Yuan, B., Wu, D.	A hybrid classifier for handwriting recognition on multi-domain financial bills based on DCNN and SVM	financial bill, handwriting recognition, deep convolutional neural network (DCNN), support vector machine (SVM)	37, 6, 1103-1110	https://doi.org/10.18280/ts.370623	Wang, S.W., Yuan, B., Wu, D. (2020). A hybrid classifier for handwriting recognition on multi-domain financial bills based on DCNN and SVM. Traitement du Signal, Vol. 37, No. 6, pp. 1103-1110. https://doi.org/10.18280/ts.370623
223	Lejmi, W., Khalifa, A.B., Mahjoub, M.A.	A novel spatio-temporal violence classification framework based on material derivative and LSTM neural network	challenges, classification, derivative, LSTM, motion, recognition, material, violence	37, 5, 687-701	https://doi.org/10.18280/ts.370501	Lejmi, W., Khalifa, A.B., Mahjoub, M.A. (2020). A novel spatio-temporal violence classification framework based on material derivative and LSTM neural network. Traitement du Signal, Vol. 37, No. 5, pp. 687-701. https://doi.org/10.18280/ts.370501
224	Rahmani, A.I., Almasi, M., Saleh, N., Katouli, M.	Image fusion of noisy images based on simultaneous empirical wavelet transform	simultaneous empirical wavelet transform, merge rules, coefficients, layers	37, 5, 703-710	https://doi.org/10.18280/ts.370502	Rahmani, A.I., Almasi, M., Saleh, N., Katouli, M. (2020). Image fusion of noisy images based on simultaneous empirical wavelet transform. Traitement du Signal, Vol. 37, No. 5, pp. 703-710. https://doi.org/10.18280/ts.370502
225	Mohammedhasan, M., Uğuz, H.	A new early stage diabetic retinopathy diagnosis model using deep convolutional neural networks and principal component analysis	diabetic retinopathy, deep learning, convolutional neural network, principal component analysis, edge-preserving guided image filtering, U-network, data augmentation	37, 5, 711-722	https://doi.org/10.18280/ts.370503	Mohammedhasan, M., Uğuz, H. (2020). A new early stage diabetic retinopathy diagnosis model using deep convolutional neural networks and principal component analysis. Traitement du Signal, Vol. 37, No. 5, pp. 711-722. https://doi.org/10.18280/ts.370503
226	Zhao, S.J., Zhu, J.C., Wu, D.	Design and application of a greedy pursuit algorithm adapted to overcomplete dictionary for sparse signal recovery	overcomplete dictionary, hard thresholding pursuit, projections	37, 5, 723-732	https://doi.org/10.18280/ts.370504	Zhao, S.J., Zhu, J.C., Wu, D. (2020). Design and application of a greedy pursuit algorithm adapted to overcomplete dictionary for sparse signal recovery. Traitement du Signal, Vol. 37, No. 5, pp. 723-732. https://doi.org/10.18280/ts.370504
227	Al-Hashim, M.A., Al-Ameen, Z.	Retinex-based multiphase algorithm for low-light image enhancement	image enhancement, image processing, low-light images, retinex-based multiphase algorithm	37, 5, 733-743	https://doi.org/10.18280/ts.370505	Al-Hashim, M.A., Al-Ameen, Z. (2020). Retinex-based multiphase algorithm for low-light image enhancement. Traitement du Signal, Vol. 37, No. 5, pp. 733-743. https://doi.org/10.18280/ts.370505
228	Fang, Q.Z., Liu, Y.X., Zhang, L.L.	Design and implementation of a lossless compression system for hyperspectral images	field programmable gate array (FPGA), hyperspectral image, lossless compression, forward prediction, full-pipeline construction	37, 5, 745-752	https://doi.org/10.18280/ts.370506	Fang, Q.Z., Liu, Y.X., Zhang, L.L. (2020). Design and implementation of a lossless compression system for hyperspectral images. Traitement du Signal, Vol. 37, No. 5, pp. 745-752. https://doi.org/10.18280/ts.370506
229	Bouida, A., Beladgham, M., Bassou, A., Benyahia, I., Ahmed-Taleb, A., Haouam, I., Kamline, M.	Evaluation of textural degradation in compressed medical and biometric images by analyzing image texture features and edges	image quality assessment, image texture analysis, image edge detection, wavelet-based compression, medical and biometric images	37, 5, 753-762	https://doi.org/10.18280/ts.370507	Bouida, A., Beladgham, M., Bassou, A., Benyahia, I., Ahmed-Taleb, A., Haouam, I., Kamline, M. (2020). Evaluation of textural degradation in compressed medical and biometric images by analyzing image texture features and edges. Traitement du Signal, Vol. 37, No. 5, pp. 753-762. https://doi.org/10.18280/ts.370507
230	Sun, H.Y., Wang, L., Song, Z., Chen, G.	Three-dimensional mirror surface measurement based on local blur analysis of phase measuring deflectometry system	three-dimensional (3D) imaging, phase measuring deflectometry (PMD), local blur, integral reconstruction	37, 5, 763-771	https://doi.org/10.18280/ts.370508	Sun, H.Y., Wang, L., Song, Z., Chen, G. (2020). Three-dimensional mirror surface measurement based on local blur analysis of phase measuring deflectometry system. Traitement du Signal, Vol. 37, No. 5, pp. 763-771. https://doi.org/10.18280/ts.370508
231	Kalakoti, G., G, P.	Key-frame detection and video retrieval based on DC coefficient-based cosine orthogonality and multivariate statistical tests	key-frame, background scenes, forefront objects, DC-coefficients, cosine orthogonality test, multivariate statistical parametric test	37, 5, 773-784	https://doi.org/10.18280/ts.370509	Kalakoti, G., G, P. (2020). Key-frame detection and video retrieval based on DC coefficient-based cosine orthogonality and multivariate statistical tests. Traitement du Signal, Vol. 37, No. 5, pp. 773-784. https://doi.org/10.18280/ts.370509
232	Ghorbanian, A., Maghsoudi, Y., Mohammadzadeh, A.	Clustering-based band selection using structural similarity index and entropy for hyperspectral image classification	band selection, dimension reduction, hyperspectral image, entropy, structural similarity, support vector machine (SVM)	37, 5, 785-791	https://doi.org/10.18280/ts.370510	Ghorbanian, A., Maghsoudi, Y., Mohammadzadeh, A. (2020). Clustering-based band selection using structural similarity index and entropy for hyperspectral image classification. Traitement du Signal, Vol. 37, No. 5, pp. 785-791. https://doi.org/10.18280/ts.370510
233	Zhang, X.R., Chen, G.	An automatic insect recognition algorithm in complex background based on convolution neural network	convolutional neural network (CNN), edgeless active contour, insect image recognition, complex background, narrow-band fast method	37, 5, 793-798	https://doi.org/10.18280/ts.370511	Zhang, X.R., Chen, G. (2020). An automatic insect recognition algorithm in complex background based on convolution neural network. Traitement du Signal, Vol. 37, No. 5, pp. 793-798. https://doi.org/10.18280/ts.370511
234	Aydemir, O.	Odor and subject identification using electroencephalography reaction to olfactory	electroencephalogram, brain response, odor, subject identification, multi-class classification, feature extraction	37, 5, 799-805	https://doi.org/10.18280/ts.370512	Aydemir, O. (2020). Odor and subject identification using electroencephalography reaction to olfactory. Traitement du Signal, Vol. 37, No. 5, pp. 799-805. https://doi.org/10.18280/ts.370512
235	Jin, D.B., Xu, S.Q., Tong, L.J., Wu, L.Y., Liu, S.M.	End image defect detection of float glass based on faster region-based convolutional neural network	float glass, defect detection, faster region-based convolutional neural network (Faster RCNN), target detection, end image	37, 5, 807-813	https://doi.org/10.18280/ts.370513	Jin, D.B., Xu, S.Q., Tong, L.J., Wu, L.Y., Liu, S.M. (2020). End image defect detection of float glass based on faster region-based convolutional neural network. Traitement du Signal, Vol. 37, No. 5, pp. 807-813. https://doi.org/10.18280/ts.370513
236	Beirami, B.A., Mokhtarzade, M.	Superpixel-based minimum noise fraction feature extraction for classification of hyperspectral images	minimum noise fraction, superpixel, feature extraction, hyperspectral classification, SuperMNF	37, 5, 815-822	https://doi.org/10.18280/ts.370514	Beirami, B.A., Mokhtarzade, M. (2020). Superpixel-based minimum noise fraction feature extraction for classification of hyperspectral images. Traitement du Signal, Vol. 37, No. 5, pp. 815-822. https://doi.org/10.18280/ts.370514
237	Guo, Q.	Detection of head raising rate of students in classroom based on head posture recognition	head posture recognition, head raising rate (HRR), convolutional neural network (CNN), human organ model	37, 5, 823-830	https://doi.org/10.18280/ts.370515	Guo, Q. (2020). Detection of head raising rate of students in classroom based on head posture recognition. Traitement du Signal, Vol. 37, No. 5, pp. 823-830. https://doi.org/10.18280/ts.370515
238	Melek, M., Manshouri, N., Kayikcioglu, T.	Low-cost brain-computer interface using the Emotiv Epoc headset based on rotating vanes	EEG, Emotiv Epoc headset, brain-computer interface, rotating vanes, information transfer rate	37, 5, 831-837	https://doi.org/10.18280/ts.370516	Melek, M., Manshouri, N., Kayikcioglu, T. (2020). Low-cost brain-computer interface using the Emotiv Epoc headset based on rotating vanes. Traitement du Signal, Vol. 37, No. 5, pp. 831-837. https://doi.org/10.18280/ts.370516

239	Keivani, M., Sazdar, A.M., Mazloum, J., Rahmani, A.E.	Application of empirical wavelet transform in digital image watermarking	digital watermarking, empirical wavelet transform, copyright, alpha blending	37, 5, 839-845	https://doi.org/10.18280/ts.370517	Keivani, M., Sazdar, A.M., Mazloum, J., Rahmani, A.E. (2020). Application of empirical wavelet transform in digital image watermarking. Traitement du Signal, Vol. 37, No. 5, pp. 839-845. https://doi.org/10.18280/ts.370517
240	Lu, S., Zhang, Q., Liu, Y., Liu, L., Zhu, Q., Jing, K.	Retrieval of multiple spatiotemporally correlated images on tourist attractions based on image processing	image processing, tourist attractions, multiple spatiotemporally correlated images (MSCIs), image retrieval	37, 5, 847-854	https://doi.org/10.18280/ts.370518	Lu, S., Zhang, Q., Liu, Y., Liu, L., Zhu, Q., Jing, K. (2020). Retrieval of multiple spatiotemporally correlated images on tourist attractions based on image processing. Traitement du Signal, Vol. 37, No. 5, pp. 847-854. https://doi.org/10.18280/ts.370518
241	Singh, N.P., Singh, V.P.	Efficient segmentation and registration of retinal image using gumble probability distribution and brisk feature	retinal image, feature descriptor, segmentation, registration, probability distribution functions	37, 5, 855-864	https://doi.org/10.18280/ts.370519	Singh, N.P., Singh, V.P. (2020). Efficient segmentation and registration of retinal image using gumble probability distribution and brisk feature. Traitement du Signal, Vol. 37, No. 5, pp. 855-864. https://doi.org/10.18280/ts.370519
242	Krishnaveni, P.R., Kishore, G.N.	Image based group classifier for brain tumor detection using machine learning technique	malignant tumor, feature extraction, classification, segmentation	37, 5, 865-871	https://doi.org/10.18280/ts.370520	Krishnaveni, P.R., Kishore, G.N. (2020). Image based group classifier for brain tumor detection using machine learning technique. Traitement du Signal, Vol. 37, No. 5, pp. 865-871. https://doi.org/10.18280/ts.370520
243	Wang, Y.N., Yang, Y.M., Zhang, P.Y.	Gesture feature extraction and recognition based on image processing	image processing, gesture feature extraction, gesture recognition, convolutional neural network (CNN)	37, 5, 873-880	https://doi.org/10.18280/ts.370521	Wang, Y.N., Yang, Y.M., Zhang, P.Y. (2020). Gesture feature extraction and recognition based on image processing. Traitement du Signal, Vol. 37, No. 5, pp. 873-880. https://doi.org/10.18280/ts.370521
244	Ouali, M.A., Ghanai, M., Chafaa, K.	TLBO optimization algorithm based-type2 fuzzy adaptive filter for ECG signals denoising	ECG signal, ECG denoising, type-2 fuzzy logic, optimization algorithm, TLBO	37, 4, 541-553	https://doi.org/10.18280/ts.370401	Ouali, M.A., Ghanai, M., Chafaa, K. (2020). TLBO optimization algorithm based-type2 fuzzy adaptive filter for ECG signals denoising. Traitement du Signal, Vol. 37, No. 4, pp. 541-553. https://doi.org/10.18280/ts.370401
245	Al-Qaisi, A., AlTarawneh, M.S., ElSaid, A., Alqadi, Z.	A hybrid method of face feature extraction, classification based on MLBP and layered-recurrent network	feature extraction, MLBP, classification, L-RNN, Quasi-Newton Back propagation	37, 4, 555-561	https://doi.org/10.18280/ts.370402	Al-Qaisi, A., AlTarawneh, M.S., ElSaid, A., Alqadi, Z. (2020). A hybrid method of face feature extraction, classification based on MLBP and layered-recurrent network. Traitement du Signal, Vol. 37, No. 4, pp. 555-561. https://doi.org/10.18280/ts.370402
246	Mehanović, D., Kevrić, J.	Phishing website detection using machine learning classifiers optimized by feature selection	classification, Decision Tree, feature selection, K-Nearest Neighbors, phishing website detection, Random Forest	37, 4, 563-569	https://doi.org/10.18280/ts.370403	Mehanović, D., Kevrić, J. (2020). Phishing website detection using machine learning classifiers optimized by feature selection. Traitement du Signal, Vol. 37, No. 4, pp. 563-569. https://doi.org/10.18280/ts.370403
247	Akgun, O.	Determination of the appropriate kernel structure in electroencephalography analysis of alcoholic subjects	alcoholic, EEG, ambiguity function, Wigner Ville distribution, nonseparable kernel, separable kernel, Doppler independent kernel, lag independent kernel	37, 4, 571-577	https://doi.org/10.18280/ts.370404	Akgun, O. (2020). Determination of the appropriate kernel structure in electroencephalography analysis of alcoholic subjects. Traitement du Signal, Vol. 37, No. 4, pp. 571-577. https://doi.org/10.18280/ts.370404
248	Wang, H.D.	A synchronous transmission method for array signals of sensor network under resonance technology	resonance technology, wavelet transform, sensor network, array signals, three-node collaboration	37, 4, 579-584	https://doi.org/10.18280/ts.370405	Wang, H.D. (2020). A synchronous transmission method for array signals of sensor network under resonance technology. Traitement du Signal, Vol. 37, No. 4, pp. 579-584. https://doi.org/10.18280/ts.370405
249	Benziane, M., Bouamar, M., Makdir, M.	Simple and efficient double-talk-detector for acoustic echo cancellation	AEC, DTD, RLS, Geigel algorithm, NCC, recursive estimation	37, 4, 585-592	https://doi.org/10.18280/ts.370406	Benziane, M., Bouamar, M., Makdir, M. (2020). Simple and efficient double-talk-detector for acoustic echo cancellation. Traitement du Signal, Vol. 37, No. 4, pp. 585-592. https://doi.org/10.18280/ts.370406
250	Bulla, P., Anantha, L., Peram, S.	Deep neural networks with transfer learning model for brain tumors classification	brain tumor, deep learning, inceptionV3, MR imaging, multi-class classification, transfer learning	37, 4, 593-601	https://doi.org/10.18280/ts.370407	Bulla, P., Anantha, L., Peram, S. (2020). Deep neural networks with transfer learning model for brain tumors classification. Traitement du Signal, Vol. 37, No. 4, pp. 593-601. https://doi.org/10.18280/ts.370407
251	Wang, Z.	Recognition and analysis of behavior features of school-age children based on video image processing	video image processing, school-age children, behavior features, behavior recognition	37, 4, 603-610	https://doi.org/10.18280/ts.370408	Wang, Z. (2020). Recognition and analysis of behavior features of school-age children based on video image processing. Traitement du Signal, Vol. 37, No. 4, pp. 603-610. https://doi.org/10.18280/ts.370408
252	Ornek, A.H., Ervural, S., Ceylan, M., Konak, M., Soylu, H., Savasci, D.	Classification of medical thermograms belonging neonates by using segmentation, feature engineering and machine learning algorithms	fast correlation-based filter, local binary pattern, machine learning, neonate, thermography	37, 4, 611-617	https://doi.org/10.18280/ts.370409	Ornek, A.H., Ervural, S., Ceylan, M., Konak, M., Soylu, H., Savasci, D. (2020). Classification of medical thermograms belonging neonates by using segmentation, feature engineering and machine learning algorithms. Traitement du Signal, Vol. 37, No. 4, pp. 611-617. https://doi.org/10.18280/ts.370409
253	Bai, S.Z., Han, F.L.	Tourist behavior recognition through scenic spot image retrieval based on image processing	image processing, scenic spot image retrieval, tourist behavior recognition, scale invariant feature transform (SIFT)	37, 4, 619-626	https://doi.org/10.18280/ts.370410	Bai, S.Z., Han, F.L. (2020). Tourist behavior recognition through scenic spot image retrieval based on image processing. Traitement du Signal, Vol. 37, No. 4, pp. 619-626. https://doi.org/10.18280/ts.370410
254	Li, A.H., An, L., Che, Z.H.	A Facial expression recognition model based on texture and shape features	Facial expression recognition, texture features, shape features, Gaussian Markov random field (GMRF) model, support vector machine (SVM) classifier	37, 4, 627-632	https://doi.org/10.18280/ts.370411	Li, A.H., An, L., Che, Z.H. (2020). A Facial expression recognition model based on texture and shape features. Traitement du Signal, Vol. 37, No. 4, pp. 627-632. https://doi.org/10.18280/ts.370411
255	El Yassini, A., Jallal, M.A., Ibnyaich, S., Zeroual, A., Chabaa, S.	A miniaturized CPW-fed reconfigurable antenna with a single-dual band and an asymmetric ground plane for switchable band wireless applications	reconfigurable antenna, CPW-fed antenna, compact antenna, pin diode, hexagonal slot, WLAN/WiMAX applications	37, 4, 633-638	https://doi.org/10.18280/ts.370412	El Yassini, A., Jallal, M.A., Ibnyaich, S., Zeroual, A., Chabaa, S. (2020). A miniaturized CPW-fed reconfigurable antenna with a single-dual band and an asymmetric ground plane for switchable band wireless applications. Traitement du Signal, Vol. 37, No. 4, pp. 633-638. https://doi.org/10.18280/ts.370412
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258	Zhang, H., Lu, X.X., Yin, X.Y.	Reverse synchronous transmission of electrical signals based on parallel injection and series pickup	parallel injection, series pickup, electrical signal, reverse synchronous transmission (RST), alternative current (AC) impedance	37, 4, 655-660	https://doi.org/10.18280/ts.370415	Zhang, H., Lu, X.X., Yin, X.Y. (2020). Reverse synchronous transmission of electrical signals based on parallel injection and series pickup. Traitement du Signal, Vol. 37, No. 4, pp. 655-660. https://doi.org/10.18280/ts.370415

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260	Rashid, A., Salamat, N., Surya Prasath, V.B.	Dynamic increased capacity approach steganography in spatial domain	Gray Level Modification (GLM), information security, Least Significant Bit (LSB), spatial domain, steganography	37, 4, 671-678	https://doi.org/10.18280/ts.370417	Rashid, A., Salamat, N., Surya Prasath, V.B. (2020). Dynamic increased capacity approach steganography in spatial domain. Traitement du Signal, Vol. 37, No. 4, pp. 671-678. https://doi.org/10.18280/ts.370417
261	Yan, X.D., Song, X.G.	An image recognition algorithm of bolt loss in underground pipelines based on local binary pattern operator	image recognition, local binary pattern (LBP) operator, feature extraction, support vector machine (SVM), underground pipelines	37, 4, 679-685	https://doi.org/10.18280/ts.370418	Yan, X.D., Song, X.G. (2020). An image recognition algorithm of bolt loss in underground pipelines based on local binary pattern operator. Traitement du Signal, Vol. 37, No. 4, pp. 679-685. https://doi.org/10.18280/ts.370418
262	Özyurt, F., Avcı, E., Sert, E.	UC-Merced image classification with CNN feature reduction using wavelet entropy optimized with genetic algorithm	CNN, feature reduction, entropy, genetic algorithm, UC Merced dataset	37, 3, 347-353	https://doi.org/10.18280/ts.370301	Özyurt, F., Avcı, E., Sert, E. (2020). UC-Merced image classification with CNN feature reduction using wavelet entropy optimized with genetic algorithm. Traitement du Signal, Vol. 37, No. 3, pp. 347-353. https://doi.org/10.18280/ts.370301
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265	Said, Z., El Hassouani, Y.	A new approach for extracting and characterizing fetal electrocardiogram	wavelet transform, source separation time–scale, electrocardiogram characterization	37, 3, 379-386	https://doi.org/10.18280/ts.370304	Said, Z., El Hassouani, Y. (2020). A new approach for extracting and characterizing fetal electrocardiogram. Traitement du Signal, Vol. 37, No. 3, pp. 379-386. https://doi.org/10.18280/ts.370304
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267	Zhang, W.L., Li, X.W., Song, Q.X., Lu, W.	A face detection method based on image processing and improved adaptive boosting algorithm	face detection, image processing, adaptive boosting (AdaBoost) algorithm, weak classifier	37, 3, 395-403	https://doi.org/10.18280/ts.370306	Zhang, W.L., Li, X.W., Song, Q.X., Lu, W. (2020). A face detection method based on image processing and improved adaptive boosting algorithm. Traitement du Signal, Vol. 37, No. 3, pp. 395-403. https://doi.org/10.18280/ts.370306
268	Moussa, M., Guedri, W., Douik, A.	A novel metaheuristic algorithm for edge detection based on artificial bee colony technique	edge detection, meta-heuristic methods, artificial bee colony (ABC) optimization, Otsu's method, multilevel thresholds, color space	37, 3, 405-412	https://doi.org/10.18280/ts.370307	Moussa, M., Guedri, W., Douik, A. (2020). A novel metaheuristic algorithm for edge detection based on artificial bee colony technique. Traitement du Signal, Vol. 37, No. 3, pp. 405-412. https://doi.org/10.18280/ts.370307
269	Houari, H., Guerti, M.	Study the influence of gender and age in recognition of emotions from algerian dialect speech	ADED, emotion, HNR, KNN, LDA, recognition, speech, SVM	37, 3, 413-423	https://doi.org/10.18280/ts.370308	Houari, H., Guerti, M. (2020). Study the influence of gender and age in recognition of emotions from algerian dialect speech. Traitement du Signal, Vol. 37, No. 3, pp. 413-423. https://doi.org/10.18280/ts.370308
270	Song, X.R., Gao, S., Chen, C.B., Wang, S.L.	A novel face recognition algorithm for imbalanced small samples	feature extraction, face recognition, convolutional neural network (CNN), imbalanced small samples	37, 3, 425-432	https://doi.org/10.18280/ts.370309	Song, X.R., Gao, S., Chen, C.B., Wang, S.L. (2020). A novel face recognition algorithm for imbalanced small samples. Traitement du Signal, Vol. 37, No. 3, pp. 425-432. https://doi.org/10.18280/ts.370309
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272	Yu, G.C.	A computationally efficient estimation algorithm for direction of arrival in double parallel linear array	direction of arrival (DOA), double parallel linear array (DPLA), joint cross-covariance matrix (JCCM), root-multiple signal classification (MUSIC) algorithm	37, 3, 443-449	https://doi.org/10.18280/ts.370311	Yu, G.C. (2020). A computationally efficient estimation algorithm for direction of arrival in double parallel linear array. Traitement du Signal, Vol. 37, No. 3, pp. 443-449. https://doi.org/10.18280/ts.370311
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275	Xiao, N., Zhang, X.Y.	A target positioning method for industrial robot based on multiple visual sensors	industrial robot, multiple visual sensors (MVSs), target positioning, feature point matching	37, 3, 469-475	https://doi.org/10.18280/ts.370314	Xiao, N., Zhang, X.Y. (2020). A target positioning method for industrial robot based on multiple visual sensors. Traitement du Signal, Vol. 37, No. 3, pp. 469-475. https://doi.org/10.18280/ts.370314
276	Bhatt, T.D.	Sequences with perfect periodic auto and cross correlation properties	periodic autocorrelation, cross-correlation, periodic ambiguity function, zero-correlation zone (ZCZ), synthesized sequences	37, 3, 477-484	https://doi.org/10.18280/ts.370315	Bhatt, T.D. (2020). Sequences with perfect periodic auto and cross correlation properties. Traitement du Signal, Vol. 37, No. 3, pp. 477-484. https://doi.org/10.18280/ts.370315
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280	Ponnam, H., Shaik, J.H.	An improved R-peaks marking method using Fourier decomposition and Teager Energy Operator	Fourier decomposition method, Hilbert Transform, Teager Energy Operator, Zero Cross Detector, R-peaks	37, 3, 511-518	https://doi.org/10.18280/ts.370319	Ponnam, H., Shaik, J.H. (2020). An improved R-peaks marking method using Fourier decomposition and Teager Energy Operator. Traitement du Signal, Vol. 37, No. 3, pp. 511-518. https://doi.org/10.18280/ts.370319
281	Cao, X.P., Li, T., Bai, J.W., Wei, Z.K.	Identification and classification of surface cracks on concrete members based on image processing	surface cracks on concrete members, image processing, image segmentation, crack identification and classification	37, 3, 519-525	https://doi.org/10.18280/ts.370320	Cao, X.P., Li, T., Bai, J.W., Wei, Z.K. (2020). Identification and classification of surface cracks on concrete members based on image processing. Traitement du Signal, Vol. 37, No. 3, pp. 519-525. https://doi.org/10.18280/ts.370320
282	Satish, P., Srikantaswamy, M., Ramaswamy, N.K.	A comprehensive review of blind deconvolution techniques for image deblurring	blind deconvolution, Maximum A Posteriori Estimation (MAP)	37, 3, 527-539	https://doi.org/10.18280/ts.370321	Satish, P., Srikantaswamy, M., Ramaswamy, N.K. (2020). A comprehensive review of blind deconvolution techniques for image deblurring. Traitement du Signal, Vol. 37, No. 3, pp. 527-539. https://doi.org/10.18280/ts.370321
283	Göğüş, F.Z., Tezel, G., Özşen, S., Küçüktürk, S., Vatansev, H., Koca, Y.	Identification of apnea-hypopnea index subgroups based on multifractal detrended fluctuation analysis and nasal cannula airflow signals	obstructive sleep apnea hypopnea syndrome (OSAHS), positive airway pressure (pap), apnea-hypopnea index (AHI), multifractal detrended fluctuation analysis, nasal cannula airflow signals, feature extraction, feature selection, random forest	37, 2, 145-156	https://doi.org/10.18280/ts.370201	Göğüş, F.Z., Tezel, G., Özşen, S., Küçüktürk, S., Vatansev, H., Koca, Y. (2020). Identification of apnea-hypopnea index subgroups based on multifractal detrended fluctuation analysis and nasal cannula airflow signals. Traitement du Signal, Vol. 37, No. 2, pp. 145-156. https://doi.org/10.18280/ts.370201
284	Li, N.N., Yue, S.Y., Jiang, B.	Adaptive and feature-preserving bilateral filters for three-dimensional models	bilateral filtering, mesh denoising, scale parameters, feature preservation	37, 2, 157-168	https://doi.org/10.18280/ts.370202	Li, N.N., Yue, S.Y., Jiang, B. (2020). Adaptive and feature-preserving bilateral filters for three-dimensional models. Traitement du Signal, Vol. 37, No. 2, pp. 157-168. https://doi.org/10.18280/ts.370202
285	Khezzar, Z.A., Benzid, R., Saidi, L.	New thresholding technique in DCT domain for interference mitigation in GNSS receivers	GNSS interference mitigation, DSSS, Discrete cosine transform, Universal threshold, statistical sampling theory, Tukey window, narraw band interference (NBI)	37, 2, 169-180	https://doi.org/10.18280/ts.370203	Khezzar, Z.A., Benzid, R., Saidi, L. (2020). New thresholding technique in DCT domain for interference mitigation in GNSS receivers. Traitement du Signal, Vol. 37, No. 2, pp. 169-180. https://doi.org/10.18280/ts.370203
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292	Al-Ameen, Z.	Satellite image enhancement using an ameliorated balance contrast enhancement technique	ABCETP, contrast enhancement, image enhancement, satellite imaging	37, 2, 245-254	https://doi.org/10.18280/ts.370210	Al-Ameen, Z. (2020). Satellite image enhancement using an ameliorated balance contrast enhancement technique. Traitement du Signal, Vol. 37, No. 2, pp. 245-254. https://doi.org/10.18280/ts.370210
293	Wu, H., Sun, X.Y., Liu, Y.N., Wang, D.G., Wei, B.	Fusion between shape prior and graph cut for vehicle image segmentation	shape prior, graph cut, image segmentation, vehicle images	37, 2, 255-262	https://doi.org/10.18280/ts.370211	Wu, H., Sun, X.Y., Liu, Y.N., Wang, D.G., Wei, B. (2020). Fusion between shape prior and graph cut for vehicle image segmentation. Traitement du Signal, Vol. 37, No. 2, pp. 255-262. https://doi.org/10.18280/ts.370211
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311	Akbari, H., Esmaili, S.S.	A novel geometrical method for discrimination of normal, interictal and ictal EEG signals	ictal EEG signal, geometrical features, computer-aided diagnosis, SVM, KNN	37, 1, 59-68	https://doi.org/10.18280/ts.370108	Akbari, H., Esmaili, S.S. (2020). A novel geometrical method for discrimination of normal, interictal and ictal EEG signals. Traitement du Signal, Vol. 37, No. 1, pp. 59-68. https://doi.org/10.18280/ts.370108
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317	Bhange, D., Dethe, C.	Performance optimization of LS/LMMSE using swarm intelligence in 3D MIMO-OFDM systems	bit error rate, 3D-PACE, multi input multi output, orthogonal frequency division multiplexing, particle swarm optimization	37, 1, 107-112	https://doi.org/10.18280/ts.370114	Bhange, D., Dethe, C. (2020). Performance optimization of LS/LMMSE using swarm intelligence in 3D MIMO-OFDM systems. Traitement du Signal, Vol. 37, No. 1, pp. 107-112. https://doi.org/10.18280/ts.370114
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323	Ouchtati, S., Chergui, A., Mavromatis, S., Aissa, B., Rafik, D., Sequeira J.	Novel method for brain tumor classification based on use of image entropy and seven Hu's invariant moments	artificial neural networks, medical images processing, images classification, brain tumor	36, 6, 483-491	https://doi.org/10.18280/ts.360602	Ouchtati, S., Chergui, A., Mavromatis, S., Aissa, B., Rafik, D., Sequeira J. (2019). Novel method for brain tumor classification based on use of image entropy and seven Hu's invariant moments. Traitement du Signal, Vol. 36, No. 6, pp. 483-491. https://doi.org/10.18280/ts.360602
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327	Xiu, G.Y., Yuan, C.Y., Chen, X.H., Li, X.S.	An innovative beam hardening correction method for computed tomography systems	Computed Tomography (CT), equivalent tissue length, trinomial fitting, water, bone	36, 6, 515-520	https://doi.org/10.18280/ts.360606	Xiu, G.Y., Yuan, C.Y., Chen, X.H., Li, X.S. (2019). An innovative beam hardening correction method for computed tomography systems. Traitement du Signal, Vol. 36, No. 6, pp. 515-520. https://doi.org/10.18280/ts.360606
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331	Özbay, E., Çınar, A.	A comparative study of object classification methods using 3D Zernike moment on 3D point clouds	3D, classification, machine learning, point cloud, pointnet, zernike moment	36, 6, 549-555	https://doi.org/10.18280/ts.360610	Özbay, E., Çınar, A. (2019). A comparative study of object classification methods using 3D Zernike moment on 3D point clouds. Traitement du Signal, Vol. 36, No. 6, pp. 549-555. https://doi.org/10.18280/ts.360610
332	Pei, J.Y., Shan, P.	A micro-expression recognition algorithm for students in classroom learning based on convolutional neural network	convolutional neural network (CNN), micro-expression recognition, deep learning, face detection, classroom learning	36, 6, 557-563	https://doi.org/10.18280/ts.360611	Pei, J.Y., Shan, P. (2019). A micro-expression recognition algorithm for students in classroom learning based on convolutional neural network. Traitement du Signal, Vol. 36, No. 6, pp. 557-563. https://doi.org/10.18280/ts.360611
333	Kuraparthi, S., Kollati, M., Kora, P.	Robust optimized discrete wavelet transform-singular value decomposition based video watermarking	ABC, DWT, imperceptibility, robustness, SVD transform	36, 6, 565-573	https://doi.org/10.18280/ts.360612	Kuraparthi, S., Kollati, M., Kora, P. (2019). Robust optimized discrete wavelet transform-singular value decomposition based video watermarking. Traitement du Signal, Vol. 36, No. 6, pp. 565-573. https://doi.org/10.18280/ts.360612
334	Meng, W.L., Mao, C.Z., Zhang, J., Wen, J., Wu, D.H.	A fast recognition algorithm of online social network images based on deep learning	online social network (OSN), image recognition, deep learning, image classification, support vector machine (SVM)	36, 6, 575-580	https://doi.org/10.18280/ts.360613	Meng, W.L., Mao, C.Z., Zhang, J., Wen, J., Wu, D.H. (2019). A fast recognition algorithm of online social network images based on deep learning. Traitement du Signal, Vol. 36, No. 6, pp. 575-580. https://doi.org/10.18280/ts.360613
335	Özdemir, H., Sever, R., Polat, Ö.	GA-based optimization of SURF algorithm and realization based on Vivado-HLS	speeded-up robust features, high-level synthesis, genetic algorithm, optimization, character recognition	36, 5, 377-382	https://doi.org/10.18280/ts.360501	Özdemir, H., Sever, R., Polat, Ö. (2019). GA-based optimization of SURF algorithm and realization based on Vivado-HLS. Traitement du Signal, Vol. 36, No. 5, pp. 377-382. https://doi.org/10.18280/ts.360501
336	Sbargoud, F., Djeha, M., Guiatni, M., Ababou, N.	WPT-ANN and belief theory based EEG/EMG data fusion for movement identification	wavelet packet transform, artificial neural networks, belief theory, data fusion, hand movement identification, electro-physiological signals, electromyography, electroencephalography	36, 5, 383-391	https://doi.org/10.18280/ts.360502	Sbargoud, F., Djeha, M., Guiatni, M., Ababou, N. (2019). WPT-ANN and belief theory based EEG/EMG data fusion for movement identification. Traitement du Signal, Vol. 36, No. 5, pp. 383-391. https://doi.org/10.18280/ts.360502
337	Zhang, F., Zhang, C., Yang, H.M., Zhao, L.	Point cloud denoising with principal component analysis and a novel bilateral filter	point cloud, 3D scanner, principal component analysis (PCA), bilateral filter	36, 5, 393-398	https://doi.org/10.18280/ts.360503	Zhang, F., Zhang, C., Yang, H.M., Zhao, L. (2019). Point cloud denoising with principal component analysis and a novel bilateral filter. Traitement du Signal, Vol. 36, No. 5, pp. 393-398. https://doi.org/10.18280/ts.360503
338	Beirami, B.A.,Mokhtarzade, M.	Spatial-spectral random patches network for classification of hyperspectral images	hyperspectral classification, random patches network, Gabor filter, support vector machine	36, 5, 399-406	https://doi.org/10.18280/ts.360504	Beirami, B.A.,Mokhtarzade, M. (2019). Spatial-spectral random patches network for classification of hyperspectral images. Traitement du Signal, Vol. 36, No. 5, pp. 399-406. https://doi.org/10.18280/ts.360504

339	Herbadji, D., Derouiche, N., Belmeguenai, A., Herbadji, A., Boumerdassi, S.	A tweakable image encryption algorithm using an improved logistic chaotic map	image encryption, chaos, logistic map, tweakable	36, 5, 407-417	https://doi.org/10.18280/ts.360505	Herbadji, D., Derouiche, N., Belmeguenai, A., Herbadji, A., Boumerdassi, S. (2019). A tweakable image encryption algorithm using an improved logistic chaotic map. Traitement du Signal, Vol. 36, No. 5, pp. 407-417. https://doi.org/10.18280/ts.360505
340	Zhang, C., Pan, S., Qi, Y.W., Yang, Y.D.	A footprint extraction and recognition algorithm based on plantar pressure	footprint recognition, plantar pressure, clustering, image segmentation	36, 5, 419-424	https://doi.org/10.18280/ts.360506	Zhang, C., Pan, S., Qi, Y.W., Yang, Y.D. (2019). A footprint extraction and recognition algorithm based on plantar pressure. Traitement du Signal, Vol. 36, No. 5, pp. 419-424. https://doi.org/10.18280/ts.360506
341	Gupta, A.K., Chakraborty, C., Gupta, B.	Monitoring of epileptical patients using cloud-enabled health-IoT system	DWT-SVD, EEG monitoring, epilepsy, health-IOT, STFT, watermarking	36, 5, 425-431	https://doi.org/10.18280/ts.360507	Gupta, A.K., Chakraborty, C., Gupta, B. (2019). Monitoring of epileptical patients using cloud-enabled health-IoT system. Traitement du Signal, Vol. 36, No. 5, pp. 425-431. https://doi.org/10.18280/ts.360507
342	Farooq, U., Rather, G.M.	Design and analysis of rectangular microstrip antenna (RMSA) for millimeter wave communication applications	millimeter wave, microstrip antenna, equivalent circuit, VSWR, next generation networks, 5G	36, 5, 433-438	https://doi.org/10.18280/ts.360508	Farooq, U., Rather, G.M. (2019). Design and analysis of rectangular microstrip antenna (RMSA) for millimeter wave communication applications. Traitement du Signal, Vol. 36, No. 5, pp. 433-438. https://doi.org/10.18280/ts.360508
343	Li, H., Ge, X.	Design and application of an image classification algorithm based on semantic discrimination	image classification, distance metric learning (DML), maximum-margin criterion (mmc), semantic discrimination	36, 5, 439-444	https://doi.org/10.18280/ts.360509	Li, H., Ge, X. (2019). Design and application of an image classification algorithm based on semantic discrimination. Traitement du Signal, Vol. 36, No. 5, pp. 439-444. https://doi.org/10.18280/ts.360509
344	Wajeed, M.A., Sreenivasulu, V.	Image based tumor cells identification using convolutional neural network and auto encoders	convolutional neural network, region-convolutional neural network, tumor cells, pre processing, clustering, classification, tumor prediction	36, 5, 445-453	https://doi.org/10.18280/ts.360510	Wajeed, M.A., Sreenivasulu, V. (2019). Image based tumor cells identification using convolutional neural network and auto encoders. Traitement du Signal, Vol. 36, No. 5, pp. 445-453. https://doi.org/10.18280/ts.360510
345	Singh, M.K., Nandan, D., Kumar, S.	Statistical analysis of lower and raised pitch voice signal and its efficiency calculation	acoustic feature, statistical analysis, feature extraction, SVM classifier, speaker identification	36, 5, 455-461	https://doi.org/10.18280/ts.360511	Singh, M.K., Nandan, D., Kumar, S. (2019). Statistical analysis of lower and raised pitch voice signal and its efficiency calculation. Traitement du Signal, Vol. 36, No. 5, pp. 455-461. https://doi.org/10.18280/ts.360511
346	Li, Y., Shi, D.L., Bu, F.J.	Automatic recognition of rock images based on convolutional neural network and discrete cosine transform	deep learning, image classification, convolutional neural network (CNN), discrete cosine transform (DCT)	36, 5, 463-469	https://doi.org/10.18280/ts.360512	Li, Y., Shi, D.L., Bu, F.J. (2019). Automatic recognition of rock images based on convolutional neural network and discrete cosine transform. Traitement du Signal, Vol. 36, No. 5, pp. 463-469. https://doi.org/10.18280/ts.360512
347	Moezzi R., Hlava J., Vu T.M.	Implementation of X-parameters principle for non-linear vibroacoustic membrane using two-port measurement	x-parameters, poly-harmonic distortion (PHD), s-parameters, lumped model, nonlinear acoustics, scattering matrix	36, 4, 297-301	https://doi.org/10.18280/ts.360401	Moezzi, R., Hlava, J., Vu, T.M. (2019). Implementation of X-parameters principle for non-linear vibroacoustic membrane using two-port measurement. Traitement du Signal, Vol. 36, No. 4, pp. 297-301. https://doi.org/10.18280/ts.360401
348	Kaya, D., Tuncer, S.A.	Generating random numbers from biological signals in labVIEW environment and statistical analysis	True Random Number Generator (TRNG), Biological Signal, Electromyographic (EMG) Signal, LabVIEW, statistical test	36, 4, 303-310	https://doi.org/10.18280/ts.360402	Kaya, D., Tuncer, S.A. (2019). Generating random numbers from biological signals in LabVIEW environment and statistical analysis. Traitement du Signal, Vol. 36, No. 4, pp. 303-310. https://doi.org/10.18280/ts.360402
349	Liu, Q., He, X., Guan, F.W., Zhao, Y.C., Jiang, F., Tian, F.X., Wang, S.X.	Method and implementation of improving the pointing accuracy of an optical remote sensor using a star sensor	Star Sensor, Spatial Optical Remote Sensor, External Orientation Element, Pointing Accuracy	36, 4, 311-317	https://doi.org/10.18280/ts.360403	Liu, Q., He, X., Guan, F.W., Zhao, Y.C., Jiang, F., Tian, F.X., Wang, S.X. (2019). Method and implementation of improving the pointing accuracy of an optical remote sensor using a star sensor. Traitement du Signal, Vol. 36, No. 4, pp. 311-317. https://doi.org/10.18280/ts.360403
350	Gorur, K., Bozkurt, M.R., Bascil, M.S., Temurtas, F.	GKP signal processing using deep CNN and svm for tongue-machine interface	Glossokinetic Potential Signals (GKPs), Tongue-Machine Interface (TMI), Convolutional Neural Network (CNN), Support Vector Machine (SVM), Brain-Computer Interface (BCI)	36, 4, 319-329	https://doi.org/10.18280/ts.360404	Gorur, K., Bozkurt, M.R., Bascil, M.S., Temurtas, F. (2019). GKP signal processing using deep CNN and SVM for tongue-machine interface. Traitement du Signal, Vol. 36, No. 4, pp. 319-329. https://doi.org/10.18280/ts.360404
351	Yang, K., Yang, Z.T., Yan, W.N., Zhao, J.K., Du, Y., Liu, S., Liu, K.	Reconstruction algorithm for polychromatic computed tomography images based on equivalent tissue length	Beam Hardening, Computed Tomography (CT), equivalent tissue length, proportional guidance	36, 4, 331-338	https://doi.org/10.18280/ts.360405	Yang, K., Yang, Z.T., Yan, W.N., Zhao, J.K., Du, Y., Liu, S., Liu, K. (2019). Reconstruction algorithm for polychromatic computed tomography images based on equivalent tissue length. Traitement du Signal, Vol. 36, No. 4, pp. 331-338. https://doi.org/10.18280/ts.360405
352	Sajja, T.K., Devarapalli, R.M., Kalluri, H.K.	Lung cancer detection based on ct scan images by using deep transfer learning	Convolutional Neural Network (CNN), lung cancer, transfer learning, alexnet, googlenet, resnet50	36, 4, 339-344	https://doi.org/10.18280/ts.360406	Sajja, T.K., Devarapalli, R.M., Kalluri, H.K. (2019). Lung cancer detection based on CT scan images by using deep transfer learning. Traitement du Signal, Vol. 36, No. 4, pp. 339-344. https://doi.org/10.18280/ts.360406
353	Qin, Z., Zhang, Y., Zhang, S., Zhao, J.W., Wang, T.F., Shen, K.	Identification of microscopic damage law of rocks through digital image processing of computed tomography images	Digital Image Processing (DIP), Geotechnical Engineering, Computed Tomography (CT) Scanning, Representative Elementary Volume (REV), microscopic damages	36, 4, 345-352	https://doi.org/10.18280/ts.360407	Qin, Z., Zhang, Y., Zhang, S., Zhao, J.W., Wang, T.F., Shen, K. (2019). Identification of microscopic damage law of rocks through digital image processing of computed tomography images. Traitement du Signal, Vol. 36, No. 4, pp. 345-352. https://doi.org/10.18280/ts.360407
354	Teki, S.M., Varma, M.K., Yadav, A.K.	Brain tumour segmentation using U-net based adversarial networks	image segmentation, brain tumour, deep learning, adversarial network, neural networks	36, 4, 353-359	https://doi.org/10.18280/ts.360408	Teki, S.M., Varma, M.K., Yadav, A.K. (2019). Brain tumour segmentation using U-net based adversarial networks. Traitement du Signal, Vol. 36, No. 4, pp. 353-359. https://doi.org/10.18280/ts.360408
355	Sheikh, T.A., Bora, J., Hussain, A.	Performance analysis of massive multi-input and multi-output with imperfect channel state information	massive multi-input and multi-output (MIMO), 5G, user scheduling, antenna selection, scale fading, channel estimation error	36, 4, 361-368	https://doi.org/10.18280/ts.360409	Sheikh, T.A., Bora, J., Hussain, A. (2019). Performance analysis of massive multi-input and multi-output with imperfect channel state information. Traitement du Signal, Vol. 36, No. 4, pp. 361-368. https://doi.org/10.18280/ts.360409
356	Li, X., Lin, C., Xu, X.P.	A target tracking model for enterprise production monitoring system based on spatial information and appearance model	target tracking, appearance features, spatial information, multi-plane projection	36, 4, 369-375	https://doi.org/10.18280/ts.360410	Li, X., Lin, C., Xu, X.P. (2019). A target tracking model for enterprise production monitoring system based on spatial information and appearance model. Traitement du Signal, Vol. 36, No. 4, pp. 369-375. https://doi.org/10.18280/ts.360410
357	Eva, O.D., Lazar, A.M.	Amplitude modulation index as feature in a brain computer interface	classification algorithms, EEG rhythms electroencephalography, features extraction, hilbert transform, motor imagery, modulation bands, temporal envelope	36, 3, 201-207	https://doi.org/10.18280/ts.360301	Eva, O.D., Lazar, A.M. (2019). Amplitude modulation index as feature in a brain computer interface. Traitement du Signal, Vol. 36, No. 3, pp. 201-207. https://doi.org/10.18280/ts.360301
358	Zhao Y.M.Zhao, Y.M.	Design and application of an adaptive slow feature extraction algorithm for natural images based on visual invariance	invariant, slow feature (SF), visual computing, receptive field, topology	36, 3, 209-216	https://doi.org/10.18280/ts.360302	Zhao, Y.M. (2019). Design and application of an adaptive slow feature extraction algorithm for natural images based on visual invariance. Traitement du Signal, Vol. 36, No. 3, pp. 209-216. https://doi.org/10.18280/ts.360302

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360	Lu, X.M., Wu, Q., Zhou, Y., Ma, Y., Song, C.C., Ma, C.	A dynamic swarm firefly algorithm based on chaos theory and max-min distance algorithm	K-means clustering (KMC), max-min distance algorithm (MM), firefly algorithm (FA), chaos theory	36, 3, 227-231	https://doi.org/10.18280/ts.360304	Lu, X.M., Wu, Q., Zhou, Y., Ma, Y., Song, C.C., Ma, C. (2019). A dynamic swarm firefly algorithm based on chaos theory and Max-Min distance algorithm. Traitement du Signal, Vol. 36, No. 3, pp. 227-231. https://doi.org/10.18280/ts.360304
361	Kumar, S.K., Reddy, P.D.K., Ramesh, G., Maddumala, V.R.	Image transformation technique using steganography methods using LWT technique	embedding, steganography, extraction, texturization, watermarking	36, 3, 233-237	https://doi.org/10.18280/ts.360305	Kumar, S.K., Reddy, P.D.K., Ramesh, G., Maddumala, V.R. (2019). Image transformation technique using steganography methods using LWT technique. Traitement du Signal, Vol. 36, No. 3, pp. 233-237. https://doi.org/10.18280/ts.360305
362	Li, Z.L., Zhou, Y., Bao, R.	An image classification method based on optimized fuzzy bag-of-words model	fuzzy bag-of-words (FBOW) model, image description, fuzzy system with positive and negative rules, particle swarm optimization (PSO), recursive least squares (RLS) algorithm	36, 3, 239-244	https://doi.org/10.18280/ts.360306	Li, Z.L., Zhou, Y., Bao, R. (2019). An image classification method based on optimized fuzzy bag-of-words model. Traitement du Signal, Vol. 36, No. 3, pp. 239-244. https://doi.org/10.18280/ts.360306
363	Chergui, L., Bouguezel, S.	A new post-whitening transform domain LMS algorithm	eigen-value spread, orthogonal transforms, post-whitening, predictive decorrelation, system identification, TDLMS	36, 3, 245-252	https://doi.org/10.18280/ts.360307	Chergui, L., Bouguezel, S. (2019). A new post-whitening transform domain LMS algorithm. Traitement du Signal, Vol. 36, No. 3, pp. 245-252. https://doi.org/10.18280/ts.360307
364	Gao, Y.H., Lu, H.L.	A novel co-planar waveguide-fed direct current wide band printed dipole antenna	dipole antenna, coplanar waveguide (CPW), base station, radio frequency identification (RFID)	36, 3, 253-257	https://doi.org/10.18280/ts.360308	Gao, Y.H., Lu, H.L. (2019). A novel co-planar waveguide-fed direct current wide band printed dipole antenna. Traitement du Signal, Vol. 36, No. 3, pp. 253-257. https://doi.org/10.18280/ts.360308
365	Shafiean, M., Zavar, M., Rahmanian, M.	Simulation and control of surge phenomenon in centrifugal compressors	centrifugal compressor, surge modeling, nonlinear function, close-coupled valve, Lyapunov, surge protection, control valve, stability	36, 3, 259-264	https://doi.org/10.18280/ts.360309	Shafician, M., Zavar, M., Rahmanian, M. (2019). Simulation and control of surge phenomenon in centrifugal compressors. Traitement du Signal, Vol. 36, No. 3, pp. 259-264. https://doi.org/10.18280/ts.360309
366	Luo, Z.L., Jia, Y.B., He, J.Z.	An optic disc segmentation method based on active contour tracking	optic disc segmentation, retinal image, active contour tracking, least squares method	36, 3, 265-271	https://doi.org/10.18280/ts.360310	Luo, Z.L., Jia, Y.B., He, J.Z. (2019). An optic disc segmentation method based on active contour tracking. Traitement du Signal, Vol. 36, No. 3, pp. 265-271. https://doi.org/10.18280/ts.360310
367	Rafik, D., Larbi, B.	Autoregressive modeling based empirical mode decomposition (EMD) for epileptic seizures detection using eeg signals	epilepsy, epileptic EEG signals, EMD, autoregressive modeling, classification, seizures	36, 3, 273-279	https://doi.org/10.18280/ts.360311	Rafik, D., Larbi, B. (2019). Autoregressive modeling based empirical mode decomposition (EMD) for epileptic seizures detection using EEG signals. Traitement du Signal, Vol. 36, No. 3, pp. 273-279. https://doi.org/10.18280/ts.360311
368	Shankar, R., Kumar, I., Mishra, R.K.	Pairwise error probability analysis of dual hop relaying network over time selective nakagami-m fading channel with imperfect csi and node mobility	selective decode-and-forward, multiple- input multiple-output, channel state information, diversity order, signal to noise ratio	36, 3, 281-295	https://doi.org/10.18280/ts.360312	Shankar, R., Kumar, I., Mishra, R.K. (2019). Pairwise error probability analysis of dual hop relaying network over time selective Nakagami-m fading channel with imperfect CSI and node mobility. Traitement du Signal, Vol. 36, No. 3, pp. 281-295. https://doi.org/10.18280/ts.360312
369	Eddine Cherif, B.D., Bendiabdellah, A.,Tabbakh, M.	Diagnosis of an inverter IGBT open-circuit fault by hilbert-huang transform application	inverter, IGBT, open-circuit, HHT, EMD, CEEMDAN, IMF, spectral envelope, rms	36, 2, 137-132	https://doi.org/10.18280/ts.360201	Eddine Cherif, B.D., Bendiabdellah, A.,Tabbakh, M. (2019). Diagnosis of an inverter IGBT open-circuit fault by hilbert-huang transform application. Traitement du Signal, Vol. 36, No. 2, pp. 127-132. https://doi.org/10.18280/ts.360201
370	Rad, S.M., Nejad, M.B.	New analog processing technique in multichannel neural signal recording with reduce data rate and reduce power consumption	analog processor, compressive sampling, spike detection, multi-channel neural recording system, reduce power consumption	36, 2, 133-137	https://doi.org/10.18280/ts.360202	Rad, S.M., Nejad, M.B. (2019). New analog processing technique in multichannel neural signal recording with reduce data rate and reduce power consumption. Traitement du Signal, Vol. 36, No. 2, pp. 133-137. https://doi.org/10.18280/ts.360202
371	Zhu, Y.L., Xu, C.G., Xiao, D.G.	Denoising ultrasonic echo signals with generalized s transform and singular value decomposition	echo signals, Generalized S Transform (GST), Singular value Decomposition (SVD), C-scan image	36, 2, 139-145	https://doi.org/10.18280/ts.360203	Zhu, Y.L., Xu, C.G., Xiao, D.G. (2019). Denoising ultrasonic echo signals with generalized s transform and singular value decomposition. Traitement du Signal, Vol. 36, No. 2, pp. 139-145. https://doi.org/10.18280/ts.360203
372	Zou, H.D., Jia, R.Q.	Visual positioning and recognition of gangues based on scratch feature detection	gangue, raw coal, grey level co-occurrence matrix (GLCM), texture feature, scratch feature	36, 2, 147-153	https://doi.org/10.18280/ts.360204	Zou, H.D., Jia, R.Q. (2019). Visual positioning and recognition of gangues based on scratch feature detection. Traitement du Signal, Vol. 36, No. 2, pp. 147-153. https://doi.org/10.18280/ts.360204
373	Sachan, V., Mishra, R.K.	Uplink sum rate and capacity of hybrid precoding mmwave massive MIMO system	MIMO, massive MIMO, millimeter wave, hybrid precoding and combining	36, 2, 155-160	https://doi.org/10.18280/ts.360205	Sachan, V., Mishra, R.K. (2019). Uplink sum rate and capacity of hybrid precoding mmWave massive MIMO system. Traitement du Signal, Vol. 36, No. 2, pp. 155-160. https://doi.org/10.18280/ts.360205
374	Xie, J.B., Li, R.T., Lv, S.W., Wang, Y.J., Wang, Q.Y., Vorotnitsky, Y.I.	Chinese alt text writing based on deep learning	Chinese image captioning, deep convolutional neural network (DCNN), feature extraction, gated recurrent unit (GRU) network	36, 2, 161-170	https://doi.org/10.18280/ts.360206	Xie, J.B., Li, R.T., Lv, S.W., Wang, Y.J., Wang, Q.Y., Vorotnitsky, Y.I. (2019). Chinese alt text writing based on deep learning. Traitement du Signal, Vol. 36, No. 2, pp. 161-170. https://doi.org/10.18280/ts.360206
375	Chouidira, I., Khodja, D.E., Chakroune, S.	Continuous wavelet technique for detection of broken bar faults in induction machine	continuous wavelet (cwt), induction machine diagnosis, signal processing, faults signatures, indicator values	36, 2, 171-176	https://doi.org/10.18280/ts.360207	Chouidira, I., Khodja, D.E., Chakroune, S. (2019). Continuous wavelet technique for detection of broken bar faults in induction machine. Traitement du Signal, Vol. 36, No. 2, pp. 171-176. https://doi.org/10.18280/ts.360207
376	Zhang, J.H., Zhu, Q., Song, L.	Self-adaptive hierarchical threshold denoising based on parametric construction of fixed-length tight-supported biorthogonal wavelets	fixed-length tight-supported (FLTS) biorthogonal wavelet, parametric construction, self-adaptive hierarchical threshold denoising (SAHTD), scale factor, sign function	36, 2, 177-184	https://doi.org/10.18280/ts.360208	Zhang, J.H., Zhu, Q., Song, L. (2019). Self-adaptive hierarchical threshold denoising based on parametric construction of fixed-length tight-supported biorthogonal wavelets. Traitement du Signal, Vol. 36, No. 2, pp. 177-184. https://doi.org/10.18280/ts.360208
377	Chinnam, S.K.R., Sistla, V., Kolli, V.K.K.	SVM-PUK kernel based MRI-brain tumor identification using texture and gabor wavelets	brain tumor, statistical features, principle component analysis, Gabor, support vector machine, Puk kernel	36, 2, 185-191	https://doi.org/10.18280/ts.360209	Chinnam, S.K.R., Sistla, V., Kolli, V.K.K. (2019). SVM-PUK kernel based MRI-brain tumor identification using texture and Gabor wavelets. Traitement du Signal, Vol. 36, No. 2, pp. 185-191. https://doi.org/10.18280/ts.360209
378	HimaBindu, G., Anuradha, C., Chandra Murty, P.S.R.	Assessment of combined shape, color and textural features for video duplication	video, shape, color, Grey-Level Co-Occurrence Matrix (GLCM), Grey-Level Run Length Matrix (GLRLM)	36, 2, 193-199	https://doi.org/10.18280/ts.360210	HimaBindu, G., Anuradha, C., Chandra Murty, P.S.R. (2019). Assessment of combined shape, color and textural features for video duplication. Traitement du Signal, Vol., 36 No. 2, pp. 193-199. https://doi.org/10.18280/ts.360210

379	Loutfi, B., Samir, Z., Ali, D., Zinelaabidine, G.M.	Real time implementation of type-2 fuzzy backstepping sliding mode controller for twin rotor MIMO system (TRMs)	TRMS model, interval type-2 fuzzy logic, sliding mode, backstepping, T2FBSMC	36, 1, 1-11	https://doi.org/10.18280/ts.360101	Loutfi, B., Samir, Z., Ali, D., Zinelaabidine, G.M. (2019). Real time implementation of type-2 fuzzy backstepping sliding mode controller for twin rotor MIMO system (TRMS). Traitement du Signal, Vol. 36, No. 1, pp. 1-11. https://doi.org/10.18280/ts.360101
380	Reddy, C.V.R., Reddy, U.S., Kishore, K.V.K.	Facial emotion recognition using NLPCA and SVM	gabor wavelet, HAAR wavelet, PCA, NLPCA, SVM	36, 1, 13-22	https://doi.org/10.18280/ts.360102	Reddy, C.V.R., Reddy, U.S., Kishore, K.V.K. (2019). Facial emotion recognition using NLPCA and SVM. Traitement du Signal, Vol. 36, No. 1, pp. 13-22. https://doi.org/10.18280/ts.360102
381	Huang, F., Zheng, N.N.	A novel frequent pattern mining algorithm for real-time radar data stream	frequent pattern, data mining, radar data, data stream, index pattern tree (IPT)	36, 1, 23-30	https://doi.org/10.18280/ts.360103	Huang, F., Zheng, N.N. (2019). A novel frequent pattern mining algorithm for real-time radar data stream. Traitement du Signal, Vol. 36, No. 1, pp. 23-30. https://doi.org/10.18280/ts.360103
382	Cai, Q.R.	A secure image encryption algorithm based on composite chaos theory	image encryption, permutation, diffusion, composite chaotic system	36, 1, 31-36	https://doi.org/10.18280/ts.360104	Cai, Q.R. (2019). A secure image encryption algorithm based on composite chaos theory. Traitement du Signal, Vol. 36, No. 1, pp. 31-36. https://doi.org/10.18280/ts.360104
383	Loutfi, B.	Faults detection and diagnosis of multilevel inverter based on signal processing	active power filter, multilevel inverter, PWM-controlled, open transistor fault, THD, mean values	36, 1, 37-44	https://doi.org/10.18280/ts.360105	Loutfi, B. (2019). Faults detection and diagnosis of multilevel inverter based on signal processing. Traitement du Signal, Vol. 6, No. 1, pp. 37-44. https://doi.org/10.18280/ts.360105
384	Oulaya, B., Aissa, B., Salim, O.	Secure transfer of color images using horizontal and vertical scan	image, encryption, decryption, scan pattern, stream cipher, keystream generator, permutation, NLFSR	36, 1, 45-51	https://doi.org/10.18280/ts.360106	Oulaya, B., Aissa, B., Salim, O. (2019). Secure transfer of color images using horizontal and vertical scan. Traitement du Signal, Vol. 36, No. 1, pp. 45-51. https://doi.org/10.18280/ts.360106
385	Liang, H., Zhang, Q., Fu, C., Liang, F., Sun, Y.S.	Surface modelling of jun ware based on ordinary differential equations	ordinary differential equation (ODE), shape modelling, digital modelling, JUN ware	36, 1, 53-58	https://doi.org/10.18280/ts.360107	Liang, H., Zhang, Q., Fu, C., Liang, F., Sun, Y.S. (2019). Surface modelling of Jun ware based on ordinary differential equations. Traitement du Signal, Vol. 1, No. 1, pp. 53-58. https://doi.org/10.18280/ts.360107
386	Shankar, R., Kumar, I., Mishra, R.K.	Outage probability analysis of MIMO-OSTBC relaying network over nakagami-m fading channel conditions	cooperative communication, outage probability, pairwise error probability, channel state information, convex optimization	36, 1, 59-64	https://doi.org/10.18280/ts.360108	Shankar, R., Kumar, I., Mishra, R.K. (2019). Outage probability analysis of MIMO-OSTBC relaying network over Nakagami-m fading channel conditions. Traitement du Signal, Vol. 36, No. 1, pp. 59-64. https://doi.org/10.18280/ts.360108
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388	Kumar K., Mishra R.K.Kumar, K., Mishra, R.K.	A robust mRMR based pedestrian detection approach using shape descriptor	classifier, feature selection, hog, hsg, pedestrian detection, SVM	36, 1, 79-85	https://doi.org/10.18280/ts.360110	Kumar, K., Mishra, R.K. (2019). A robust mRMR based pedestrian detection approach using shape descriptor. Traitement du Signal, Vol. 36, No. 1, pp. 79-85. https://doi.org/10.18280/ts.360110
389	Reddy, U.J., Reddy, B.R.V.R., Reddy, B.E.	Recognition of lung cancer using machine learning mechanisms with fuzzy neural networks	pre-processing, Binarizotion, segmentation, feature extraction, neural network, lung cancer detection	36, 1, 87-91	https://doi.org/10.18280/ts.360111	Reddy, U.J., Reddy, B.R.V.R., Reddy, B.E. (2019). Recognition of lung cancer using machine learning mechanisms with fuzzy neural networks. Traitement du Signal, Vol. 36, No. 1, pp. 87-91. https://doi.org/10.18280/ts.360111
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392	Bikku, T., Paturi, R.	Frequency domain steganography with reversible texture combination	texture combination, steganography, embedding, steganalysis, discrete cosine transform	36, 1, 109-117	https://doi.org/10.18280/ts.360114	Bikku, T., Paturi, R. (2019). Frequency domain steganography with reversible texture combination. Traitement du Signal, Vol. 36, No. 1, pp. 109-117. https://doi.org/10.18280/ts.360114
393	Babu, K.S., Vemuru, S.	Spectrum signals handoff inLTE cognitive radio networks using reinforcement learning	cognitive radio network, long-term evolution, spectrum handoff, galactic swarm optimization, reinforcement learning	36, 1, 119-125	https://doi.org/10.18280/ts.360115	Babu, K.S., Vemuru, S. (2019). Spectrum signals handoff in LTE cognitive radio networks using reinforcement learning. Traitement du Signal, Vol. 36, No. 1, pp. 119-125. https://doi.org/10.18280/ts.360115
394	Dai, C.Q., Lv, Y.L., Long, Y.X., Sui, H.T.	A novel image enhancement technique for tunnel leakage image detection	tunnel leakage image, wavelet transform, image enhancement	35, 3-4, 209-222	https://doi.org/10.3166/TS.35.209-222	Dai, C.Q., Lv, Y.L., Long, Y.X., Sui, H.T. (2018). A novel image enhancement technique for tunnel leakage image detection. Traitement du Signal, Vol. 35, No. 3-4, pp. 209-222. https://doi.org/ 10.3166/TS.35.209-222
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396	Jian, C.F., Lu, T., Xiang, X.Y., Zhang, M.Y.	An improved mixed gaussian-based background modelling method for fast gesture segmentation of mobile terminals	mixed gaussian model, background modelling, learning rate, gesture segmentation	35, 3-4, 243-252	https://doi.org/10.3166/TS.35.243-252	Jian, C.F., Lu, T., Xiang, X.Y., Zhang, M.Y. (2018). An improved mixed gaussian-based background modelling method for fast gesture segmentation of mobile terminals. Traitement du Signal, Vol. 35, No. 3-4, pp. 243-252. https://doi.org/ 10.3166/TS.35.243-252
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401	Peng, L.	A brain nuclear magnetic resonance image segmentation algorithm based on non-rigid registration	non-rigid registration, brain NMR image, atlas prior, shape knowledge	35, 3-4, 317-330	https://doi.org/10.3166/TS.35.317-330	Peng, L. (2018). A brain nuclear magnetic resonance image segmentation algorithm based on non-rigid registration. Traitement du Signal, Vol. 35, No. 3-4, pp. 317-330. https://doi.org/10.3166/TS.35.317-330
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407	Kadam, R.S., Kulkarni, A.	Radiation pattern of reconfigurable antenna design for portable device applications	reconfigurable antenna, radiation pattern, portable device	35, 2, 153-168	https://doi.org/10.3166/TS.35.153-168	Kadam, R.S., Kulkarni, A. (2018). Radiation pattern of reconfigurable antenna design for portable device applications. Traitement du Signal, Vol. 35, No. 2, pp. 153-168. https://doi.org/ 10.3166/TS.35.153-168
408	Neelapu, R., Devi, G.L., Rao, K.S.	Deep learning based conventional neural network architecture for medical image classification	deep learning, neural networks, medical image classification, processing, CNN, SVM	35, 2, 169-182	https://doi.org/10.3166/TS.35.169-182	Neelapu, R., Devi, G.L., Rao, K.S. (2018). Deep learning based conventional neural network architecture for medical image classification. Traitement du Signal, Vol. 35, No. 2, pp. 169-182. https://doi.org/ 10.3166/TS.35.169-182
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410	Mostefa, T., Tarak, B., Hachemi, G.	An automatic diagnosis method for an open switch fault in unified power quality conditioner based on artificial neural network	UPQC, active power filter, ANN, fault detection, open switch fault, FFT, skewness	35, 1, 7-21	https://doi.org/10.3166/TS.35.7-21	Mostefa, T., Tarak, B., Hachemi, G. (2018). An automatic diagnosis method for an open switch fault in unified power quality conditioner based on artificial neural network. Traitement du Signal, Vol. 35, No. 1, pp. 7-21. https://doi.org/ 10.3166/TS.35.7-21
411	Devi, B.R.	Texture feature-based image searching system using wavelet transform approach	feature extraction, image searching, pyramid structure wavelet transform model (PSWTM), wavelet transform, feature-based image searching system (FBISS), precision, recall, similarity matching	35, 1, 23-33	https://doi.org/10.3166/TS.35.23-33	Devi, B.R. (2018). Texture feature-based image searching system using wavelet transform approach. Traitement du Signal, Vol. 35, No. 1, pp. 23-33. https://doi.org/ 10.3166/TS.35.23-33
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414	Huang, X.L., Zhang, T.F., Deng, Z.H., Li, Z.	Design of moving target detection and tracking system based on cortex-A7 and openCV	behavior analysis, camshift, cortex-A7, embedded system, target tracking, opencv	35, 1, 61-73	https://doi.org/10.3166/TS.35.61-73	Huang, X.L., Zhang, T.F., Deng, Z.H., Li, Z. (2018). Design of moving target detection and tracking system based on cortex-A7 and OpenCV. Traitement du Signal, Vol. 35, No. 1, pp. 61-73. https://doi.org/10.3166/TS.35.61-73
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421	Wang, J., Ding, R., Yang, Y.D., Pan, S.	A novel signal processing technique for travelling detection pulse radar in 3D geographic scene	pulse radar, traveling detection, geographic scene, signal processing, speed compensation	34, 3-4, 183-196	https://doi.org/10.3166/TS.35.183-196	Wang, J., Ding, R., Yang, Y.D., Pan, S. (2017). A novel signal processing technique for travelling detection pulse radar in 3D geographic scene. Traitement du Signal, Vol. 34, No. 3-4, pp. 183-196. https://doi.org/10.3166/TS.35.183-196
422	Narayana, V.L., Gopi, A.P.	Visual cryptography for gray scale images with enhanced security mechanisms	visual cryptography, dwt, digital watermarking	34, 3-4, 197-208	https://doi.org/10.3166/TS.35.197-208	Narayana, V.L., Gopi, A.P. (2017). Visual cryptography for gray scale images with enhanced security mechanisms. Traitement du Signal, Vol. 34, No. 3-4, pp. 197-208. https://doi.org/10.3166/TS.35.197-208
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426	Yang, K., Xue, L.Y., Yin, K., Liu, S., Meng, J.	Microbubble generation and trapping induced by femtosecond laser and acoustic signal analysis	femtosecond laser, microbubble, self-focusing, laser-induced optical breakdown (LIOB), high-speed camera, high-frequency ultrasonic imager	34, 1-2, 33-44	https://doi.org/10.3166/TS.34.33-44	Yang, K., Xue, L.Y., Yin, K., Liu, S., Meng, J. (2017). Microbubble generation and trapping induced by femtosecond laser and acoustic signal analysis. Traitement du Signal, Vol. 34, No. 1-2, pp. 33-44. https://doi.org/10.3166/TS.34.33-44
427	Sailaja, R., Rupa, C., Chakravarthy, A.S.N.	Robust and indiscernible multimedia watermarking using light weight mutational methodology	three lines maximum, lifting wavelet transform, singular value decomposition, peak signal to noise ratio, normalized Correlatio	34, 1-2, 45-55	https://doi.org/10.3166/TS.34.45-55	Sailaja, R., Rupa, C., Chakravarthy, A.S.N. (2017). Robust and indiscernible multimedia watermarking using light weight mutational methodology. Traitement du Signal, Vol. 34, No. 1-2, pp. 45-55. https://doi.org/10.3166/TS.34.45-55
428	Tian, H.Q., Dang, X.Q., Wang, J.H., Wu, D.M.	Registration method for three-dimensional point cloud in rough and fine registrations based on principal component analysis and iterative closest point algorithm	intraoperative registration, principal component analysis (PCA), iterative closest point (ICP) algorithm, point cloud, gaussian noise	34, 1-2, 57-75	https://doi.org/10.3166/TS.34.57-75	Tian, H.Q., Dang, X.Q., Wang, J.H., Wu, D.M. (2017). Registration method for three-dimensional point cloud in rough and fine registrations based on principal component analysis and iterative closest point algorithm. Traitement du Signal, Vol. 34, No. 1-2, pp. 57-75. https://doi.org/10.3166/TS.34.57-75
429	Benkaddour, M.K., Bounoua, A.	Feature extraction and classification using deep convolutional neural networks, PCA and SVC for face recognition	biometrics, face recognition, feature extraction, convolutional neural network, CNN, support vector machines (SVM), svc, principal component analysis, PCA	34, 1-2, 77-91	https://doi.org/10.3166/TS.34.77-91	Benkaddour, M.K., Bounoua, A. (2017). Feature extraction and classification using deep convolutional neural networks, PCA and SVC for face recognition. Traitement du Signal, Vol. 34, No. 1-2, pp. 77-91. https://doi.org/10.3166/TS.34.77-91
430	Jiang, C.H., Zhang, C., Zhang, Y.H., Xu, H.	An improved particle swarm optimization algorithm for parameter optimization of proportional–integral–derivative controller	flying time, adaptive weight, constriction factor, Improved Particle Swarm Optimization (IPSO), Proportional–Integral–Derivative (PID) controller	34, 1-2, 93-110	https://doi.org/10.3166/TS.34.93-110	Jiang, C.H., Zhang, C., Zhang, Y.H., Xu, H. (2017). An improved particle swarm optimization algorithm for parameter optimization of proportional–integral–derivative controller. Traitement du Signal, Vol. 34, No. 1-2, pp. 93-110. https://doi.org/10.3166/TS.34.93-110