



- (51) International Patent Classification:
G06F 15/18 (2006.01)
- (21) International Application Number:
PCT/US2021/015786
- (22) International Filing Date:
29 January 2021 (29.01.2021)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
62/967,998 30 January 2020 (30.01.2020) US
- (72) Inventors; and
- (71) Applicants: **LI, Wentong** [US/US]; 15166 Los Gatos Blvd #3, Los Gatos, California 95032 (US). **MAO, Yi** [US/US]; 15166 Los Gatos Blvd #3, Los Gatos, California 95032 (US). **ZHOU, Qing** [CN/US]; 15166 Los Gatos Blvd #3, Los Gatos, California 95032 (US).
- (74) Agent: **HOU, Tianjun**; P.O. Box 700092, San Jose, California 95170 (US).

HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— with international search report (Art. 21(3))

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,

(54) Title: METHOD AND APPARATUS OF AUTOMATIC BUSINESS INTELLIGENT MARKETING CONTENTS/CREATIVES CURATION

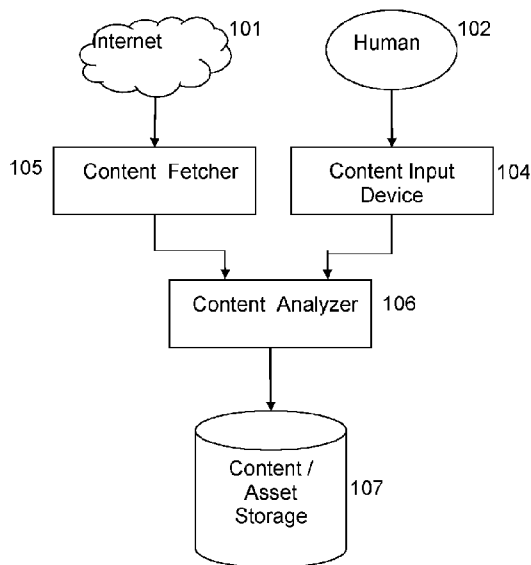


FIG. 2

(57) Abstract: A method and apparatus to automatic curate the marketing creative/content employ the learning of internet contents. This method can be applied on all the contents/creatives curated based on predefined assets. One example of the content is image of women's apparel set which includes the dress, shoes and other assets like bag. The internet is full of the contents. There are high quality contents and low-quality ones. Examples of simple indicator are likes/views ratio or click through rate to distinguishing them. These indicators could be biased, however if there are enough viewers, it will still be statistically significant. With enough computing power, we can learn the patterns of high-quality content vs lower quality ones using these indicators. We created a process to automatically learn the assets groups and the arrangement of the assets from the internet contents and use the knowledge of the learning to create new content and creatives using a commercial product list or catalog for marketing purpose.



METHOD AND APPARATUS OF AUTOMATIC BUSINESS INTELLIGENT MARKETING CONTENTS/CREATIVES CURATION

TECHNICAL FIELD

[0001] The field of invention relates to the computer learning, marketing contents/ creatives automation, product recommendation and business intelligence.

BACKGROUND

5 **[0002]** The content generation for marketing is a very expensive process. Although a significant budget is spent on content creation, the existing creation process can only produce a limited amount of contents/creatives. Most of the contents from the existing process are used for the branding marketing. With the growth of the internet marketing especially social network marketing, more and
10 more contents are required especially from the merchant who carries a variety of products to personalize for their users.

[0003] Our invention uses the merchant product lists and the knowledge learned from internet and human expert inputs to automatically create new marketing contents/creatives in large scale. Moreover, during the process of the
15 content creation we can add the merchant business objectives like margin, geo, seasonality and etc.

SUMMARY

[0004] This invention provides a method to automatically curate marketing content by using a programmed computer, a database storage for models derived

from existing internet contents, and a database of merchant product lists and business constraints.

[0005] The system collects raw information from the internet and human data input. The system transforms the information into abstract models by using various learning methodologies and store it in a database.

[0006] When the system receives the merchant product list or product assets, it will retrieve the models from the storage and curate the content. Moreover, during the curation process, it will enforce the merchant's business constraints.

[0007] This invention solves the problem of existing costly and time-consuming marketing content creation. It also greatly increases the amount of content for marketing needs.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] These and various other features and advantages will become better understood upon reading of the following detailed description in conjunction with the accompanying drawings and the appended claims provided below, where:

[0009] FIG. 1 is a diagram illustrating a system according to embodiments of the disclosure.

[0010] FIG. 2 is a diagram illustrating a system according to embodiments of the disclosure.

[0011] FIG. 3 is is a diagram illustrating a system according to embodiments of the disclosure.

[0012] FIG. 4 is a flowchart illustrating a method according to embodiments of the disclosure.

DETAILED DESCRIPTION OF EMBODIMENTS

[0013] An automatic method for content curation is provided. There are
5 three major components in our methodology. Figure 1 is shown the overall system diagram.

[0014] Content collection machine 100 in Figure 1 is the module that collects the original contents. The details of this component are shown in Figure 2. The original contents are collected both from the internet 101 by using a program
10 or electronic devices 104 and from the human 102 through input devices 105. The content collected will go through a program or devices 106 to be analyzed and stored into a storage device 107 as the content and the assets being used in these contents.

[0015] Content learning machine 200 in Figure 1 is module that takes the
15 analyzed contents and assets from the storage 107 and convert to models. The detail is shown in Figure 3. The learning machine 203 is a program or electronic devices which retrieves the contents 201 and assets 202 from the storage device 107. This machine will apply some learning machine algorithms and create curation models 204 which models the affinity of the assets and placement
20 models 205 which defines how to sequence the assets. The models will be stored into another storage device 206.

[0016] Content curation machine 300 in Figure 1 is the module that generates the new curated content. The detail is shown in Figure 4. This module takes the models from storage devices 206 and merchant assets 301 in some

electronic form as inputs. It first applies the curation model 204 to identify the assets sets and then apply merchant business rules 302 to filtering the sets. The rules are also in electronic form which defines the constraints of the assets within a set. The placement model 205 will be applied on the assets to sequencing the order of the assets or the positions of the assets. Content synthesizer 303 will take the output from 205 and create contents. The created content will be in multiple media formats like image, video, text and etc.

[0017] Examples of the Usage

[0018] An example of the usage is for apparel retailer advertising on Facebook/instagram. They suffer the lack of native product set images to tailor different users and cover all the products. By using our methodology, the machine will collect the curated apparel native product set images from the internet and from human stylists' input. The output models will be the apparel product matching models and the products layout models for creating images. These models will be stored in a storage device and can be used by the merchants in the same category.

[0019] Another example of the usage is for job listing advertising. Job listing is traditionally on the web site like monster.com, indeed.com and etc. Each job listing has different qualification requirements for candidate. The job requirements in the listing could be the assets for our technology. Our technology will convert the listings to ads which will personalize for specific candidate groups.

[0020] When we submit the merchant product catalog to the system, the system will output the matching sets in native images. These images can be used as original native content for marketing on Facebook/instagram.

[0021] Those skilled in the art will appreciate that various other modifications may be made. All these or other variations and modifications are contemplated by the inventors and within the scope of the invention.

CLAIMS

WHAT IS CLAIMED IS:

1. An apparatus for automatic content curation for marketing content creation, comprising:
 - a content collection machine,
 - a learning machine,
 - a curation generation machine, and
 - an electronic storage,wherein business constraints are applied during a content curation process.

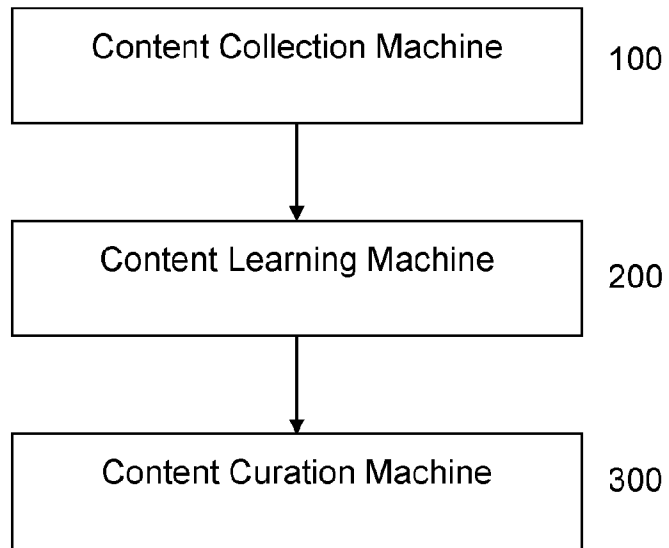


FIG. 1

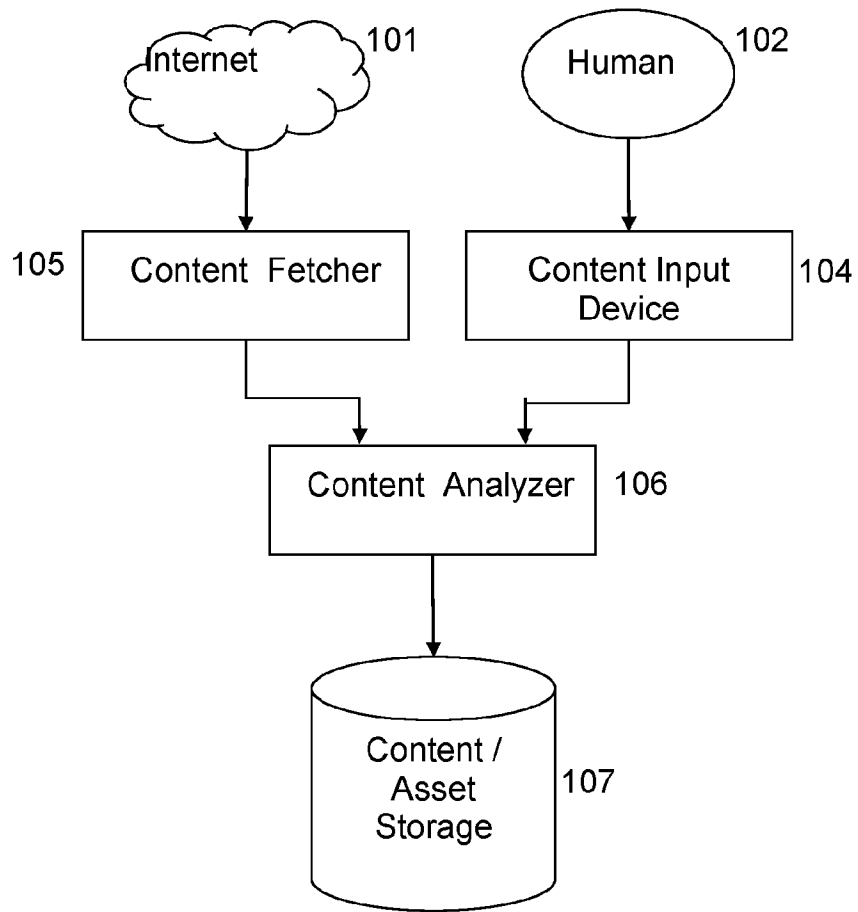


FIG. 2

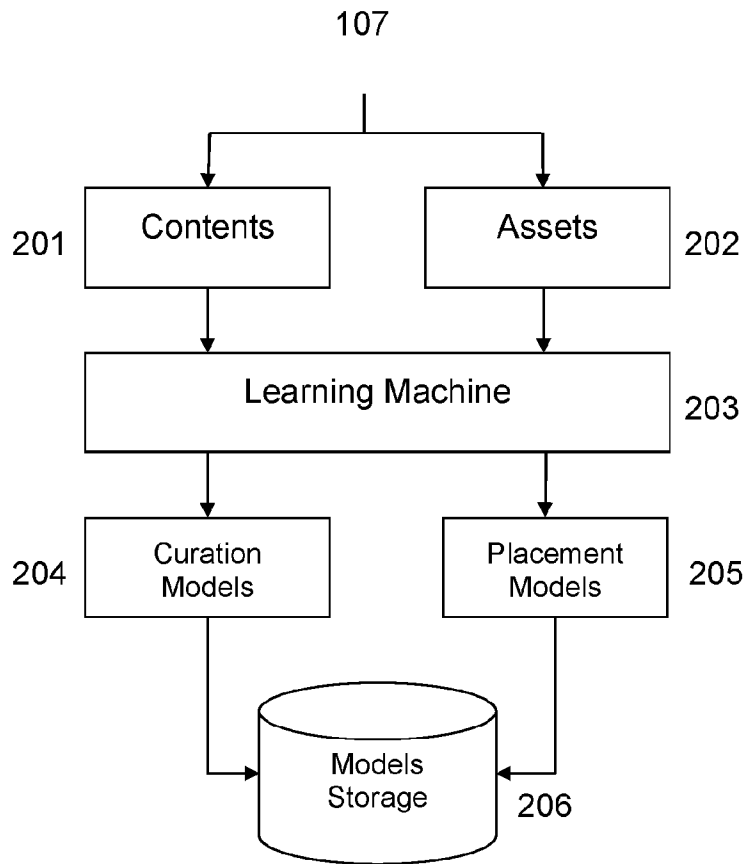


FIG. 3

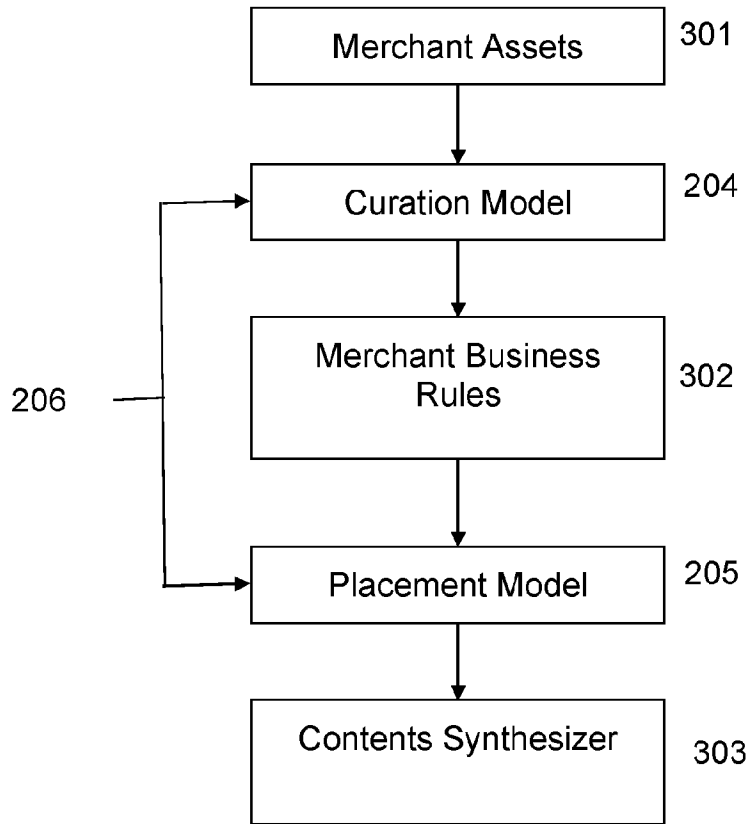


FIG. 4

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 21/15786

A. CLASSIFICATION OF SUBJECT MATTER

IPC - G06F 15/18 (2021.01)

CPC - G06N 99/005, G06K 9/6256, G06K 9/6269, G06N 5/025, G06N 7/005, G06N 3/08, G06N 3/04, G06F 17/30707, G06K 9/6269, G06Q 10/10, G06Q 10/06, G06Q 30/0201, G06Q 30/02, G06Q 40/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2015/0006237 A1 (Folloze, Inc.) 01 January 2015 (01.01.2015), entire document especially paras [0033], [0041], [0045], [0050]	1
A	US 2009/0234689 A1 (Simon et al.) 17 September 2009 (17.09.2009), entire document	1
A	US 2013/0204658 A1 (SocialLasso) 08 August 2013 (08.08.2013), entire document	1
A	US 2014/0280371 A1 (International Business Machines Corporation) 18 September 2014 (18.09.2014), entire document	1
A	US 2011/0082883 A1 (Narayanan et al.) 07 April 2011 (07.04.2011), entire document	1

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
 "A" document defining the general state of the art which is not considered to be of particular relevance
 "D" document cited by the applicant in the international application
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Date of the actual completion of the international search

30 March 2021

Date of mailing of the international search report

APR 14 2021

Name and mailing address of the ISA/US
 Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
 P.O. Box 1450, Alexandria, Virginia 22313-1450
 Facsimile No. 571-273-8300

Authorized officer
 Lee Young
 Telephone No. PCT Helpdesk: 571-272-4300