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1	Provisional Cover Sheet (SB16)	CCF-HEAVEY-07132017-TRANSMITTAL.pdf	61134 828201a54d09c2025c41ef2573531a8a456a3f4a	no	3
Warnings:					
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2	Specification	CCF-HEAVEY-07132017-APPLICATION.pdf	49346 6c68fd7238c39f665d57248f9dc682dd00c64eaa	no	8
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3	Drawings-only black and white line drawings	CCF-HEAVEY-07132017-DRAWINGS.pdf	30437 288a1772442b0175ed127954110e78738aa1b7ad	no	1
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4	Fee Worksheet (SB06)	fee-info.pdf	29667 b11b67ddefee71af4482c2a696689d2aa4d1dc4d	no	2
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Doc Code: **TR.PROV**
Document Description: Provisional Cover Sheet (SB16)

PTO/SB/16 (11-08)
Approved for use through 05/31/2015. OMB 0651-0032
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Provisional Application for Patent Cover Sheet

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)

Inventor(s)

Inventor 1 — Remove

Given Name	Middle Name	Family Name	City	State	Country
JON		HEAVEY	ROCKY RIVER	OH	US

All Inventors Must Be Listed – Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. — Add

Title of Invention	TRACKING POLITICAL DONATIONS FROM FOREIGN INTERESTS
Attorney Docket Number (if applicable)	CCF-HEAVY-07132017

Correspondence Address

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Customer Number	26294

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

- ◉ No.
- ○ Yes, the invention was made by an agency of the United States Government. The U.S. Government agency name is:
- ○ Yes, the invention was under a contract with an agency of the United States Government. The name of the U.S. Government agency and Government contract number are:

Doc Code: **TR.PROV**
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Entity Status
Applicant asserts small entity status under 37 CFR 1.27 or applicant certifies micro entity status under 37 CFR 1.29

- (●) Applicant asserts small entity status under 37 CFR 1.27
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Signature	/Brian W. Bolinger/			Date (YYYY-MM-DD)	2017-07-13
First Name	BRIAN W.	Last Name	BOLINGER	Registration Number (If appropriate)	47434

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TRACKING POLITICAL DONATIONS FROM FOREIGN INTERESTS

RELATED APPLICATIONS

[0001] This application claims priority from U.S. Provisional Application No. XX/XXX,XXX, filed 14 July 2017, the subject matter of which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] This invention relates to expert systems, and more particularly, to tracking political donations from foreign interests.

BACKGROUND

[0003] Political campaigns are underwritten by contributions that are made directly to a candidate or to independent organizations such as SuperPACS, 501c4 organizations, and other entities. These funds are referred to as hard money (donations directly to a candidate) or soft money (donations to independent organizations). Hard money limits are registered with the FEC and other central organizations designed to track contributions to the candidate. Soft money sources are not limited in amounts, but have restrictions on uses, including “firewall” restrictions that prevent independent organizations from “directly coordinating” with candidates. These restrictions have limited tangible effect, as the firewall between soft money organizations and candidates may be little more than adjacent offices rented under separate lease agreements. In some cases a spousal relationship even qualifies as separation that prevents “direct coordination” between the two entities (*e.g.*, spouse A is the candidate, spouse B is the SuperPAC chair).

[0004] The U.S. Presidency has long been an asset that has been sought by capital holders. Historically the capital holders were domestic leaders in industry, for example John D. Rockefeller and Andrew Carnegie. With increasing globalization and increasing channels for soft money, global sources of capital now compete with domestic sources. As a result, foreign capital has increasingly influenced the policies of both major political parties. Foreign capital is technically prohibited from influencing U.S. elections. However, in practicality it has substantial impact-- as evidenced by the Presidential election campaign of 2016. It can be argued that

Donald Trump's ties to Russian oligarchs, as well as Hillary Clinton's ties to Clinton Foundation contributors, created foreign influence on both candidates.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 illustrates a system for tracking foreign political donations in accordance with an aspect of the present invention; and

[0006] FIG. 2 is a schematic block diagram illustrating an exemplary system of hardware components.

DETAILED DESCRIPTION

[0007] Machine learning, dynamic algorithms, and artificial intelligence can be used to correlate and establish relationships from these disparate data sources. Neural networks and other modeling mechanisms can be used to decipher how the flow of foreign capital is intermingling with domestic capital. These flows can be used to track foreign organizations as well as domestic counterparts in a variety of settings. This includes but is not limited to:

- Federal political parties and candidates
- State level political parties and candidates
- Municipal level politicial parties and candidates
- Contractual bidding through federal agencies such as DoD, DoS, USAID, etc.
- Currency and FOREX markets
- Public and privately held equity markets

[0008] Once foreign influenced candidates are identified, the foreign ties can be publicized or otherwise used to discourage foreign influence over the candidate. Activist capital investment strategies have been utilized to force market changes that maximize shareholder value and achieve other strategic objectives. While controversial, such strategies have been utilized by hedge funds and other capital organizations to drive market changes while simultaneously deriving a profit.

[0009] One such activist strategy involves "shorting" companies and entities that activist capital holders believe will lose value. The more the entities lose value, the higher the profit for the investors who have "shorted" the entity. Exchange traded funds ("ETFs") are a simple mechanism to allocate a basket of securities that mimic short trades and other activist investments. For example, the ETF traded under ticker symbol "GURU" on the NY stock exchange is designed to correlate with the top ten

activist investor funds and their various techniques (including shorting equity, shorting debt, utilizing proxy battles, forcing Board changes, etc.).

[0010] The stated invention would draw upon the advanced data analytics to derive a targeting strategy for an ETF with a unique capital investment strategy. The ETF is intended to reward political candidates, institutions, companies, and other entities that place priority on the needs of the country over the interests of political parties and/or individuals.

[0011] Initially the ETF would use the targeting data outlined above to identify assets to hold and/or short to optimize profits for ETF shareholders. A non-limiting example would be to short AIG stock, as AIG was perceived to have disproportionately benefitted from a Democratic administration's disbursement of "bailout" funds. Similarly, the ETF could short the Russian ruble, as the current Republican administration is suspected of providing Russia with undue influence over national policies.

[0012] Such shareholders can purchase the ETF in a consumer friendly retail setting on the NY stock exchange until such time that institutional and/or accredited investors are recruited. If successful, the ETF could expand into a full-fledged activist fund with large scale institutional partners. The data derived from the intelligent targeting data would triage and prioritize the underlying capital strategy for the ETF.

[0013] FIG. 1 illustrates a system 10 for tracking political donations in accordance with an aspect of the present invention. A network interface 12 can provide data from a plurality of data sources representing foreign and domestic capital transactions. These sources can include, but are not limited to:

- US Treasury FINCEN BSA data (Bank Secrecy Act)
- US Treasury FINCEN US Customs data
- Federal Elections Committee (FEC) candidate contribution data
- Bitcoin and crypto currency data registries
- SuperPAC, 501c4 & PAC data registries
- Offshore IBAN & ABA routing data
- SWIFT & SORT codes
- IRS 501c4, 501c3 990 filings
- Foreign emoluments
- EINs, shell corporate datasets, and foreign corporate registrations at state level
- Tariff and import/export trade data

[0014] This data is provided to a classification system implemented as computer readable instructions, executed by a processor 14 and stored on a non-transitory computer readable medium 20. The system includes a set of pattern recognition classifiers 24 that extract relevant data from the financial data. Exemplary data of interest can include various parameters representing transactions with business entities, both for-profit and non-profit, that are affiliated with candidates, corporate registrations associated with existing affiliated business entities, anomalous transactions on various currency markets, including domestic, foreign, and cryptocurrency (*e.g.*, bitcoin) markets, donations to candidates and associated soft money groups, and other evidence of financial transactions.

[0015] The pattern recognition classifiers 24 can utilize one or more pattern recognition algorithms, each of which analyze the unstructured or semi-structured data from at least one source to isolate transactions and data of interest. Where multiple classification algorithms are used for a given data source, an arbitration element can be utilized to provide a coherent result from the plurality of classifiers.

[0016] In one implementation, the pattern recognition classifiers 24 can include unsupervised learning algorithms that identify anomalous transactions or entities that engage in an abnormal number of transactions with foreign entities and candidate-affiliated entities or cluster transactions into groups of similar transactions or similar entities. For example, transactions can be evaluated according to a plurality of features, such as a geographical location of the residence of each transacting party, an amount of the transaction, a “degree of separation” from a candidate, a percentage of transactions of a transacting entity with either or both of candidate-affiliated entities or foreign business entities, or any other features found to be useful. Entities can be evaluated, for example, according to a percentage of transactions or income that originates from anomalous transactions. In an anomaly detection system, transactions will be flagged that fall outside of an established range for these factors. In a clustering system, the transactions will be grouped into sets of similar transactions, for example, for review by a human expert for classification into anomalous or non-anomalous transactions.

[0017] In another implementation, the classifiers can include supervised learning algorithms. Each supervised classifier is trained on a set of training samples, including features such as those described above, representing anomalous and non-anomalous transactions. The training process of the a given classifier will

vary with its implementation, but the training generally involves a statistical aggregation of training data from a plurality of training samples into one or more parameters associated with the output class. Any of a variety of optimization techniques can be utilized for the classification algorithm, including support vector machines, self-organized maps, fuzzy logic systems, data fusion processes, ensemble methods, rule based systems, or artificial neural networks.

[0018] For example, a support vector machine (SVM) classifier can process the training data to produce functions representing boundaries in a feature space defined by the various features. Similarly, an artificial neural network (ANN) classifier can process the training data to determine a set of interconnection weights corresponding to the interconnections between nodes in its associated the neural network.

[0019] A SVM classifier can utilize a plurality of functions, referred to as hyperplanes, to conceptually divide boundaries in the N-dimensional feature space, where each of the N dimensions represents one associated feature of the feature vector. The boundaries define a range of feature values associated with each class. Accordingly, an output class and an associated confidence value can be determined for a given input feature vector according to its position in feature space relative to the boundaries. A rule-based classifier applies a set of logical rules to the extracted features to select an output class. Generally, the rules are applied in order, with the logical result at each step influencing the analysis at later steps. A regression model can be configured to calculate a parameter representing a likelihood that a transaction is anomalous being based on a set of predetermined weights applied to the elements of an extracted feature vector.

[0020] An ANN classifier comprises a plurality of nodes having a plurality of interconnections. The values from the feature vector are provided to a plurality of input nodes. The input nodes each provide these input values to layers of one or more intermediate nodes. A given intermediate node receives one or more output values from previous nodes. The received values are weighted according to a series of weights established during the training of the classifier. An intermediate node translates its received values into a single output according to a transfer function at the node. For example, the intermediate node can sum the received values and subject the sum to a binary step function. A final layer of nodes provides the confidence values for the output classes of the ANN, with each node having an

associated value representing a confidence for one of the associated output classes of the classifier. In a binary classification, the final layer of nodes can include only a single node, which can be translated to a confidence value that a transaction or entity is anomalous.

[0021] In one implementation, natural language processing algorithms could parse the transcripts of advertising pieces to decipher if it is in favor or against particular candidates. From this information, the entity, such as a soft money group, associated with the ad can be determined and linked to the candidate benefiting from the ad, thus an entity funding the ad can be determined to be affiliated or aligned with the candidate.

[0022] Once anomalous transactions and entities have been identified, these transactions can be used at a candidate evaluator 26 to create a barometer, index, quotient, and/or other indicator to characterize the degree to which foreign capital has influenced a given candidate or contractual transaction, which is provided to a user at a display 30. For example, a candidate index can be a relative or absolute indicator of the amount of foreign funding that has been provided to the candidate, affiliated candidates, PACs, and affiliated business entities by foreign interests. This information can then be utilized in various settings. It can be published for public consumption, utilized in concert with an activist capital investment strategy, or used in other settings.

[0023] The invention is intended to promote “country before party” behavior and to reward participants with a profitable investment strategy. By analyzing domestic and foreign capital flows, the data analytics will enable a unique activist investment strategy. The investment strategy will highlight the duopoly of the American political system, and provide a profitable alternative to consumers. By leveraging machine learning, intelligent algorithms, and other advanced data analytics the invention will allow citizens to select candidates based on their ability to represent their constituents, not just their party.

[0024] FIG. 2 is a schematic block diagram illustrating an exemplary system 200 of hardware components capable of implementing examples of the systems and methods disclosed herein, such as the transaction evaluation system described previously. The system 200 can include various systems and subsystems. The system 200 can be a personal computer, a laptop computer, a workstation, a

computer system, an appliance, an application-specific integrated circuit (ASIC), a server, a server blade center, a server farm, etc.

[0025] The system 200 can includes a system bus 202, a processing unit 204, a system memory 206, memory devices 208 and 210, a communication interface 212 (*e.g.*, a network interface), a communication link 214, a display 216 (*e.g.*, a video screen), and an input device 218 (*e.g.*, a keyboard, touch screen, and/or a mouse). The system bus 202 can be in communication with the processing unit 204 and the system memory 206. The additional memory devices 208 and 210, such as a hard disk drive, server, stand alone database, or other non-volatile memory, can also be in communication with the system bus 202. The system bus 202 interconnects the processing unit 204, the memory devices 206-210, the communication interface 212, the display 216, and the input device 218. In some examples, the system bus 202 also interconnects an additional port (not shown), such as a universal serial bus (USB) port.

[0026] The processing unit 204 can be a computing device and can include an application-specific integrated circuit (ASIC). The processing unit 204 executes a set of instructions to implement the operations of examples disclosed herein. The processing unit can include a processing core.

[0027] The additional memory devices 206, 208, and 210 can store data, programs, instructions, database queries in text or compiled form, and any other information that can be needed to operate a computer. The memories 206, 208 and 210 can be implemented as computer-readable media (integrated or removable) such as a memory card, disk drive, compact disk (CD), or server accessible over a network. In certain examples, the memories 206, 208 and 210 can comprise text, images, video, and/or audio, portions of which can be available in formats comprehensible to human beings.

[0028] Additionally or alternatively, the system 200 can access an external data source or query source through the communication interface 212, which can communicate with the system bus 202 and the communication link 214.

[0029] In operation, the system 200 can be used to implement one or more parts of a diagnostic system in accordance with the present invention, in particular, the feature extractor 22 and the pattern recognition classifier 24. Computer executable logic for implementing the imaging system resides on one or more of the system memory 206, and the memory devices 208, 210 in accordance with certain

examples. The processing unit 204 executes one or more computer executable instructions originating from the system memory 206 and the memory devices 208 and 210. The term "computer readable medium" as used herein refers to a medium that participates in providing instructions to the processing unit 204 for execution. This medium may be distributed across multiple discrete assemblies all operatively connected to a common processor or set of related processors.

[0030] What have been described above are examples of the present invention. It is, of course, not possible to describe every conceivable combination of components or methodologies for purposes of describing the present invention, but one of ordinary skill in the art will recognize that many further combinations and permutations of the present invention are possible. Accordingly, the present invention is intended to embrace all such alterations, modifications, and variations that fall within the scope of the appended claims.

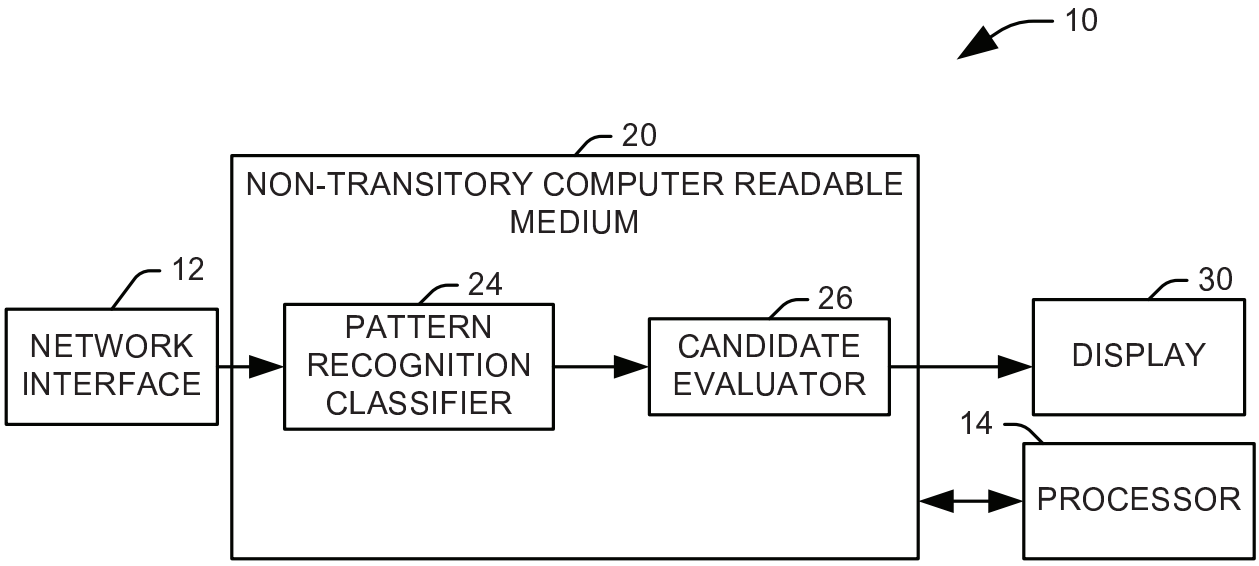
10
20
NON-TRANSITORY COMPUTER READABLE MEDIUM
12
NETWORK INTERFACE
24
PATTERN RECOGNITION CLASSIFIER
26
CANDIDATE EVALUATOR
30
DISPLAY
14
PROCESSOR

FIG. 1

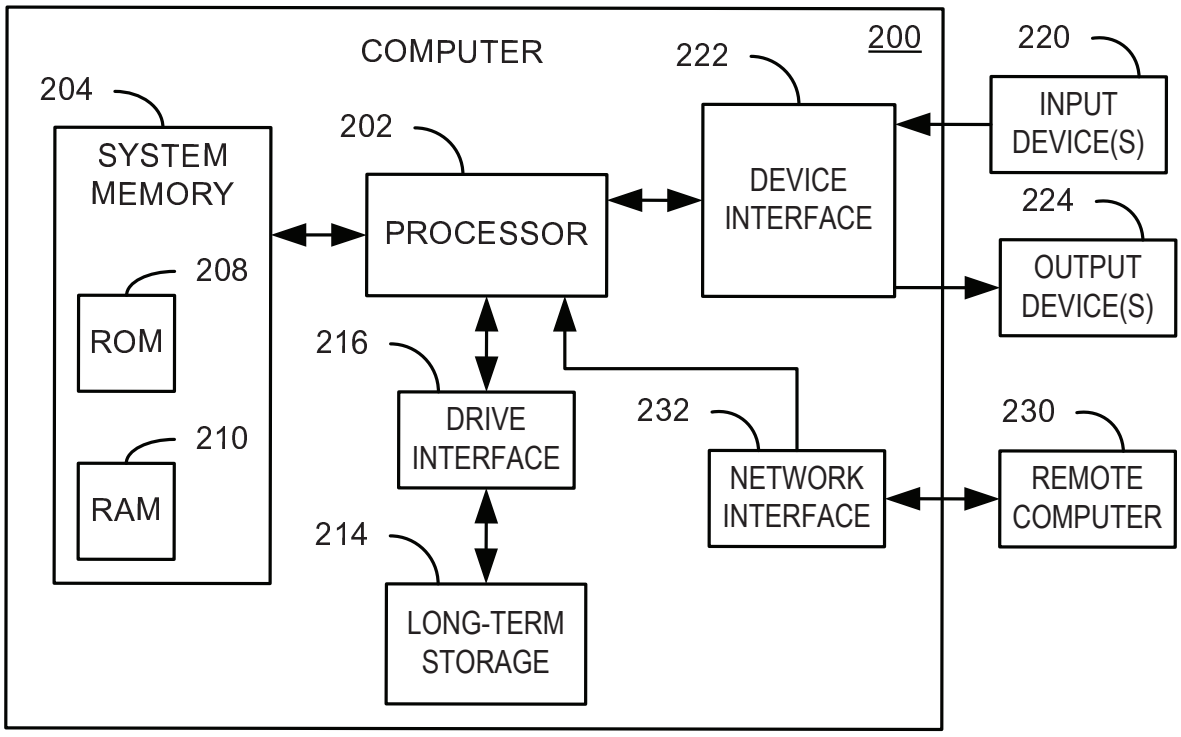
COMPUTER
200
204
SYSTEM MEMORY
208
ROM
210
RAM
202
PROCESSOR
222
DEVICE INTERFACE
220
INPUT DEVICE(S)
224
OUTPUT DEVICE(S)
216
DRIVE INTERFACE
214
LONG-TERM STORAGE
232
NETWORK INTERFACE
230
REMOTE COMPUTER

FIG. 2