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A Review on Fake Media Detection Based on NLP and Blockchain

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ABSTRACT: Social media network is one of the important parts of human life based on the recent technologies and developments in terms of computer science area. This environment has become a famous platform for sharing information and news on any topics and daily reports, which is the main era for collecting data and data transmission. There are various advantages of this environment, but in another point of view there are lots of fake news and information that mislead the reader and user for the information needed. Lack of trust-able information and real news of social media information is one of the huge problems of this system. To overcome this problem, we have proposed an integrated system for various aspects of block chain and natural language processing (NLP) to apply machine-learning techniques to detect fake news and better predict fake user accounts and posts. The Reinforcement Learning technique is applied for this process. To improve this platform in terms of security, the decentralized block chain framework applied, which provides the outline of digital contents authority proof. The concept of this system is developing a secure platform to predict and identify fake news in social media networks.

I. INTRODUCTION

Fake news nowadays is taking over the social media. To tackle the situation, machine learning text classification improves the level of security that is needed in social media daily-based networking. Expressing feelings or sharing an opinion through the social networking portal from the non-government organization's survey contains many fake accounts and information circulating the portal based on a suitable channel. In this case, the harmful and unwanted accounts need to pass from the network to give more space to the data centre and manage the mess and political problems in the network.

NATURAL LANGUAGE PROCESSING:

Natural language processing (NLP) is a subfield of linguistics, computer science, and artificial intelligence concerned with the interactions between computers and human language, in particular how to program computers to process and analyse large amounts of natural language data. The goal is a computer capable of "understanding" the contents of documents, including the contextual nuances of the language within them. The technology can then accurately extract information and insights contained in the documents as well as categorize and organize the documents themselves. Natural language processing has its roots in the 1950s. Already in 1950, Alan Turing published an article titled "Computing Machinery and Intelligence" which proposed what is now called the Turing test as a criterion of intelligence, though at the time that was not articulated as a problem separate from artificial intelligence. The proposed test includes a task that involves the automated interpretation and generation of natural language. In the early days, many language-processing systems were designed by symbolic methods, i.e., the hand coding of a set of rules, coupled with a dictionary lookup, such as by writing grammars or devising heuristic rules for stemming. More recent systems based on machine-learning algorithms have many advantages over hand-produced rules. The learning procedures used during machine learning automatically focus on the most common cases, whereas when writing rules by hand it is often not at all obvious where the effort should be directed. Automatic learning procedures can make use of statistical inference algorithms to produce models that are robust to unfamiliar input (e.g. containing words or structures that have not been seen before) and to erroneous input (e.g. with misspelled words or words accidentally omitted). Generally, handling such input gracefully with handwritten rules, or, more generally, creating systems of handwritten rules that make soft decisions, is extremely difficult, error-prone and time-consuming. Systems based on automatically learning the rules can be made more accurate simply by supplying more input data. However, systems

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based on handwritten rules can only be made more accurate by increasing the complexity of the rules, which is a much more difficult task. In particular, there is a limit to the complexity of systems based on handwritten rules, beyond which the systems become more and more unmanageable. However, creating more data to input to machine-learning systems simply requires a corresponding increase in the number of person-hours worked, generally without significant increases in the complexity of the annotation process. Despite the popularity of machine learning in NLP research, symbolic methods are still (2020) commonly used. when the amount of training data is insufficient to successfully apply machine learning methods, e.g., for the machine translation of low-resource languages such as provided by the A pertium system, for pre-processing in NLP pipelines, e.g., tokenization, or for post processing and transforming the output of NLP pipelines, e.g., for knowledge extraction from syntactic parses.

BLOCKCHAIN

A block chain is a type of distributed ledger technology (DLT) that consists of growing list of records, called blocks, that are securely linked together using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data. The timestamp proves that the transaction data existed when the block was created. Since each block contains information about the previous block, they effectively form a chain (compare linked list data structure), with each additional block linking to the ones before it. Consequently, block chain transactions are irreversible in that, once they are recorded; the data in any given block cannot be altered retroactively without altering all subsequent blocks. Block chains are typically managed by a peer-to-peer (P2P) computer network for use as a public distributed ledger, where nodes collectively adhere to a consensus algorithm protocol to add and validate new transaction blocks. Although block chain records are not unalterable, since blockchain forks are possible, block chains may be considered secure by design and exemplify a distributed computing system with high Byzantine fault tolerance. The implementation of the block chain within bitcoin made it the first digital currency to solve the double-pending problem without the need of a trusted authority or central server. The bitcoin design has inspired other applications and block chains that are readable by the public and are widely used by cryptocurrencies. The block chain may be considered a type of Private block chains have been proposed for business use. A block chain is a decentralized, distributed, and often public, digital ledger consisting of records called blocks that are used to record transactions across many computers so that any involved block cannot be altered retroactively, without the alteration of all subsequent blocks. This allows the participants to verify and audit transactions independently and relatively inexpensively. A block chain database is managed autonomously using a peer-to-peer network and a distributed timestamping server. They are authenticated by mass collaboration powered by collective self-interests Such a design facilitates robust workflow where participants' uncertainty regarding data security is marginal. The use of a block chain removes the characteristic of infinite reproducibility from a digital asset. It confirms that each unit of value was transferred only once, solving the long-standing problem of double spending. A block chain has been described as a value-exchange protocol. A block chain can maintain title rights because, when properly set up to detail the exchange agreement, it provides a record that compels offer and acceptance.

FAKE MEDIA

Fake news is false or misleading information presented as news. Fake news often has the aim of damaging the reputation of a person or entity, or making. Although false news has always been spread throughout history, the term "fake news" was first used in the 1890s when sensational reports in newspapers were common. Nevertheless, the term does not have a fixed definition and has been applied broadly to any type of false information. It has also been used by high-profile people to apply to any news unfavourable to them. Further, disinformation involves spreading false information with harmful intent and is sometimes generated and propagated by hostile foreign actors, particularly during elections. In some definitions, fake news includes satirical articles misinterpreted as genuine, and articles that employ sensationalist or clickbait headlines that are not supported in the text. Because of this diversity of types of false news, researchers are beginning to favour information disorder as a more neutral and informative term. The prevalence of fake news has increased with the recent rise of social media, especially the Facebook News Feed, and this misinformation is gradually seeping into the mainstream media. Several factors have been implicated in the spread of fake news, such as political polarization, post-truth politics, motivated reasoning, confirmation bias, and social media algorithms. Fake news can reduce the impact of real news by competing with it. For example, a Buzz Feed News analysis found that the top fake news stories about the 2016 U.S. presidential election received more engagement on Facebook than top stories from major media outlets. It also particularly has the potential to undermine trust in serious media coverage. The term has at times been used to cast doubt upon credible news, and former U.S. president Donald Trump has been credited with popularizing the term by using it to describe any negative press coverage of himself. On an individual scale, the ability to actively confront false narratives, as well as taking care when sharing information can reduce the prevalence of falsified information. However, it has been noted that this is vulnerable to the effects of confirmation bias, motivated reasoning and other cognitive biases that can seriously distort reasoning, particularly in

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dysfunctional and polarized societies. Inoculation theory has been proposed as a method to render individuals resistant to undesirable narratives. Because new misinformation pops up all the time, it is much better time wise to inoculate the population against accepting fake news in general, instead of continually debunking the same repeated lies.

II. LITERATURE REVIEWS

[1] Arian Balouchestani has proposed in this paper Millions of news are being exchanged daily among people. With the appearance of the Internet, the way of broadcasting news has changed and become faster; however, it caused many problems. For instance, the increase in the speed of broadcasting news leads to an increase in the speed of fake news creation. Fake news can have a huge impression on societies. Additionally, the existence of a central entity, such as news agencies, could lead to fraud in the news broadcasting process, e.g., generating fake news and publishing them for their benefits. Since Blockchain technology provides a reliable decentralized network, it can be used to publish news. In addition, Blockchain with the help of decentralized applications and smart contracts can provide a platform in which fake news can be detected through public participation. In this paper, we proposed a new method for sharing and analysing news to detect fake news using Blockchain, called SANUB. SANUB provides features such as publishing news anonymously, news evaluation, reporter validation, fake news detection and proof of news ownership. The results of our analysis show that SANUB outperformed the existing methods. Blockchain technology provides a platform for people to broadcast news anonymously, however it can lead to the creation of fake news. There are numerous challenges to implement Blockchain for news evaluating, such as a Blockchain based system with fake news detection, which remains unresolved in previous work. To the best of our knowledge, the focus of previous work has been on preventing the publication of fake news while preserving the integrity of the news. However, a better way to prevent fake news is to evaluate them by the people themselves. In this section, we proposed SANUB, a decentralized Blockchain-based application for sharing and evaluating news to address these challenges.

[2] Adnan Qayyum has proposed in his paper recent years, “fake news” has become a global issue that raises unprecedented challenges for human society and democracy. This problem has arisen due to the emergence of various concomitant phenomena such as (the digitization of human life and the ease of disseminating news through social networking applications (such as Facebook and WhatsApp); the availability of “big data” that allows customization of news feeds and the creation of polarized so-called “filter-bubbles”; and the rapid progress made by generative machine learning (ML) and deep learning (DL) algorithms in creating realistic-looking yet fake digital content (such as text, images, and videos). There is a crucial need to combat the rampant rise of fake news and disinformation. In this paper, we propose a high-level overview of a blockchain-based framework for fake news prevention and highlight the various design issues and consideration of such a blockchain-based framework for tackling fake news. The progress made by artificial intelligence (AI) techniques for customization, dissemination, and generation of content and the increasingly digital habitat of human lives has created the unhappy situation where sensationalized fake content and misinformation thrives and spreads like wildfire; whereas establishing the authenticity of the truth and differentiating reality from fakes is becoming increasingly daunting. This creates a number of imposing technical, legal, and ethical challenges. The technology of blockchain, being a decentralized ledger technology, promises to bring transparency and trust to this new “post-truth” world by enabling features such as smart contracts, decentralized consensus, and tamperproof authentication. In this paper, we have introduced the modern malaise of realistic-looking fake content and focused specifically on the phenomena of fake news. To address the fake news problem, we have proposed a blockchain-based framework for detection and mitigation of fake news and have described a high-level blueprint of our solution. In our future work, we aim to extend this work to develop an actual prototype of such a system.

[3] Shovon Paul has proposed in this paper Blockchain technology has opened the gate of creating decentralized applications, where security is a big concern. Here, any transaction ever held is recorded permanently. Over the years, some non-reputable sources have been publishing fake and attractive news stories. Due to the lack of any regulatory systems, this news cannot be verified. Hence, these unreliable sources can publish whatever they want, and even in some cases, it makes chaos in society. In recent times due to the ease in internet availability and social media, inappropriate news can spread more quickly than ever before. In some cases, fake news is more attractive than the real one. Thus, people become misguided. Using the advantages of Blockchain’s peer-to-peer network concepts, we will discuss a way to detect fake news in social media. Social media is the source of all kinds of global and local news for most of the people in this generation. But it backfires when an individual/organization uses it to spread fake news. Because, in social media, clickbait stories take a brief time to spread exponentially. The news becomes viral worldwide just within days. These opportunist organizations or individuals are taking advantage of people’s tendency to sharing appealing news without knowing its authenticity or consequences. Despite having some limitations, the proposed method will be undoubtedly helpful for detecting fake news in social media as spreading fake news via social media

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which is a huge issue. This news misguides people just to achieve more page views to earn extra money dishonestly. Whereas, our hypothesis makes bound to do these wrongdoings. Some improvement can be made using equations of bias and weight so that the outcome of achieving trustiness rating will be more accurate. And the methodology will perform better than by conducting proper weight and bias-related calculations. So, the total evaluation will be more accurate.

[4] Zonyin Shae has proposed in this paper an interdisciplinary effort is needed for solving the fake news crisis, because the solutions depend not only on AI, but also on social mechanisms. In this paper, we propose an AI blockchain platform to build a strong collaboration among AI blockchain researchers and news media to advance the research fighting against fake news. This platform will provide journalists with blockchain crowd-sourced and AI validated factual data on emerging news. This platform will gather blockchain traced data and AI tools that can provide pointers to the original data sources, news propagation path, AI analysed experts to consult on a given topic. This will provide journalists with cheaper and reliable sources of information in the Internet social media age. So that factual-sourced reporting can outpace the spread of fake news on social media which will encourage factual news sources as a way to value and promote truth for society. The technical contributions of this paper are mechanism building the factual news database, mechanism generating the news blockchain supply chain graph, and AI blockchain based crowd sourcing fake news ranking mechanisms AI blockchain platform for trusting news ecosystem. reviewing the state of fake news research from the technology and social aspects, and providing list of key research issues and technical challenges. n this paper, we will focus on the “fact” and not directly on the “truth” which is somehow related to the emotion and personal belief in the age of “post-truth”. In our definition, “fact” is that things actually happened, and “truth” is that people think or believe that things happened. Our approach is to hopefully bring the consensus eventually of the “truth” to people mind by certifying and broadcasting “fact”. The three interactive functions of social media - tracking, sharing and creating - empower users to keep abreast of popular information, to repost any news (e.g., special reports, news videos, latest research, etc.), to express subjectively determined facts, and to even host the live broadcast. Through the tracking, sharing and creation interaction among a large user base, social media has been able to shape the major civic activities. In many political elections (for example, the 2016 US presidential election, the 2017 French presidential election, and the recent Brazilian presidential election), it is found that social media platforms are full of fake news propagation using social robots, propaganda accounts with politically polarized positions, and fabricated news reports.

[5] Yaqing Wang, has proposed in this paper Today social media has become the primary source for news. Via social media platforms, fake news travel at unprecedented speeds, reach global audiences and put users and communities at great risk. Therefore, it is extremely important to detect fake news as early as possible. Recently, deep learning-based approaches have shown improved performance in fake news detection. However, the training of such models requires a large amount of labelled data, but manual annotation is time-consuming and expensive. Moreover, due to the dynamic nature of news, annotated samples may become outdated quickly and cannot represent the news articles on newly emerged events. Therefore, how to obtain fresh and high-quality labelled samples is the major challenge in employing deep learning models for fake news detection. In order to tackle this challenge, we propose a reinforced weakly supervised fake news detection framework, i.e., We FEND, which can leverage users’ reports as weak supervision to enlarge the amount of training data for fake news detection. The proposed framework consists of three main components: the annotator, the reinforced selector and the fake news detector. The annotator can automatically assign weak labels for unlabelled news based on users’ reports. The reinforced selector using reinforcement learning techniques chooses high-quality samples from the weakly labelled data and filters out those low-quality ones that may degrade the detector’s prediction performance. The fake news detector aims to identify fake news based on the news content. We tested the proposed framework on a large collection of news articles published via WeChat official accounts and associated user reports. Extensive experiments on this dataset show that the proposed We FEND model achieves the best performance compared with the state-of-the-art methods. The problem setting is as follows. Each sample consists of both news articles and user feedback comments. Both are texts, and are transformed into vector representations by word embedding. User feedback comments are referred to as reports, which are detailed reasons and evidence provided by users about the credibility of the corresponding news articles. A small set of samples are labelled by experts as fake or real, and our objective is to predict the labels of the unlabelled samples. shows the overview of the proposed framework We FEND.

[6] Aditya Chokshi, has proposed in this paper Fake news is a term which deals with fallacy in information, content or some sort of statistics or facts revealed to public for some sort of attention, to abuse someone as a means for acquiring some benefits harming the other entity or to construct a territory of bloodshed among mankind. A survey found that 86% of users have been tricked upon by fake news out of which supreme disseminator is Facebook. Deep learning

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architectures have been touched upon as fake news detection accords with colossal amount of data. Several architectures like the artificial neural network which concentrates on classifying the text-based news, convolutional neural network which deals with the text or image grouping of the updates the people receive online. They can be also used to verify the information bas ed on the title or the source of data, other architectures like recurrent neural network can be looked upon to sight some unrecognizable patterns in the content with the aid of its segment long short-term memory (LSTM). Fraudulent or false news may have a tendency to create destructive surrounding or mislead an individual or organization to do some unwanted threatening activity and harm the environment. So, it is necessary to prevent its distribution. This paper describes several architectures and methodologies that can be employed in this field of fake news classification technique. Since artificial neural networks does not deal with long term dependencies it is necessary to involve the presence of LSTMs in the hidden layer r. Using long short-term memory (LSTM) in the convolution neural network (CNN) can lead to the model yielding high accuracy along with using the drop out layers in hidden layer or the fully connected layer in the CNN also results in good predictions for the news content. Also using CNN for image classification of the news spreading on social media with LSTM can deliver good results. Also using bidirectional recurrent neural network with LSTMs as a memory element for handling the dependencies of large input and can be used as a model for prediction of the fabricated news and further soft max can be used as a activation function can be used for predicting the probabilities of how much the news is fake or real.

[7] Nicollas R. de Oliveira, has proposed in this paper The epidemic spread of fake news is a side effect of the expansion of social networks to circulate news, in contrast to traditional mass media such as newspapers, magazines, radio, and television. Human inefficiency to distinguish between true and false facts exposes fake news as a threat to logical truth, democracy, journalism, and credibility in government institutions. In this paper, we survey methods for pre-processing data in natural language, vectorization, dimensionality reduction, machine learning, and quality assessment of information retrieval. We also contextualize the identification of fake news, and we discuss research initiatives and opportunities. In this paper, definitions, characteristics and the process of disseminating fake news were presented. We also discussed the traditional methods for detecting fake news. The most recent reference databases used in this area of research were compared. The literature shows that Natural Language Processing (NLP) has been used to detect fake news. We discussed how NLP could be used to evaluate information from social networks and compare the different machine learning methods. Unlike previous work, we summarized the key algorithms for processing each step on a Natural Language Processing framework devoted to identifying fake news in social media. We also presented current datasets to train and test fake news discrimination proposals. Moreover, open questions and challenges are also highlighted to explore potential research opportunities. In this context, additional learning-related approaches and techniques are presented in the work of Palmieri and Giglio [87], as well as an exploratory methodology that allows deepening researches related to online social networks and NLP. Our work helps researchers understand the different components of online digital communication from a social and technical perspective. Dissemination of fake news on multiple multilingual platforms, complex and dynamic network structure, large volumes of Realtime unlabelled data, and early detection of rumours are some challenging problems that are yet to be solved and need further research.

[8] Karissa Yau, has proposed in this paper with COVID-19 emerging as a pandemic that has affected everyone worldwide, people have become more reliant on news to make everyday decisions to ensure their safety of themselves and their loved ones. However, fake news is almost becoming a "second pandemic" or "info emic," posing as a health hazard to people worldwide. Given that coronavirus-related fake news is such a new phenomenon, prior work has not applied fake news detection to coronavirus. In an effort to tackle this issue, we utilize a modified LSTM that considers features relevant to fake news including the Jaccard index between the title and text, polarity, and frequency of adjective use. Our model was trained on a 600-article dataset containing 300 fake news articles and 300 real news articles. It achieved an overall accuracy of 0.91 with F1 scores of 0.89 and 0.92 for real and fake news, respectively. The proliferation of fake news in the era of coronavirus is a particularly pressing issue. Whether it is the vandalism of cell towers in the UK after rumours about a link between 5G and coronavirus or the promotion of unproven medication, the spread of coronavirus-related fake news has profound ramifications. The United Nations reiterates this in writing that "a single falsehood that gains traction can negate the significance of a body of true facts," demonstrating how imperative it is to combat false information. In order to evaluate our model, we compared our results to three baselines including: a naive bayes classifier, a three-layer neural network, and an LSTM. For each of our models, we split up our collected dataset with 80% of the examples used for training and 20% used for testing. We chose to use the naive bayes classifier as one of our baselines as it is often used as a baseline when dealing with text classification. Our neural network also found moderate success (discussed further in the Results section) after being trained for 10 epochs. For our neural network baseline, we used a learning rate of 0.001, gradient descent optimization, and sparse SoftMax cross entropy for our loss function. Finally, we trained our baseline LSTM for 4 epochs with a batch size of 25 and learning

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rate of 0.01. With 2 our baseline LSTM, we also used a sigmoid activation function, binary cross entropy for our loss function, and Adam optimization.

[9] Dr. James, has proposed in this paper Artificial feelings and emotions are beginning to play an increasingly important role as mechanisms for facilitating learning in intelligent systems. Here we present an architectural framework for artificial neural emotions through the use of an emotional memory system, based on Dr. Peter Levine's Autonomic Nervous System States. Tying the notions of Human Autonomic Nervous System States to an artificial Spatio-Temporal memory system, facilitated through the use of an Artificial Cognitive Neural Framework provides the foundation for a system of basic artificial emotions for a Genetic, Neural Processing Environment capable of emotional learning and processing. We believe this has the potential to revolutionize neural processing environments by allowing emotional memories and emotional learning to facilitate coalitions and cooperation between artificial neural intelligent software agents. We believe shared emotional states between intelligent software agents will more easily allow information sharing between agents, providing the constructs for "Cognitive Economy" in intelligent systems. The purpose of this paper is to describe an Artificial Cognitive Neural Framework (ACNF) (Crowder, 2001_03) which allows for "conscious" software agents that carry "emotional memories," based on Dr.Levines Autonomic Nervous System States (Levine, 1997). These conscious software agents are autonomous agents that sense the environment and act on it, based on a combination of information memories (explicit spatio-temporal memories), emotional memories (implicit inference memories), and outside stimulus from the environment. We will describe the constructs for basic emotions and short & long-term memories (Crowder, 2002_02). The long-term memories (three-dimensional patio-temporal memories) provide identification, recognition, and categorization functions as well as identification of basic feelings (Nervous System States). The short-term memories (non-recurrent associative memories) provide preconscious buffers as a workspace for internal activities. This paper described the framework and constructs, but there is much work left to do in this investigation. The possibilities are endless and the potential is for this work to radically change how we think about artificially intelligent systems and how the interact with the world.

[10] Deep Learning Techniques for Automatic DetectionGIUSEPPE SANSONETTI et.al., has proposed in this paper Since the harmful consequences of the online publication of fake news have emerged clearly, many research groups worldwide have started to work on the design and creation of systems able to detect fake news and entities that share it consciously. Therefore, manifold automatic, manual, and hybrid solutions have been proposed by industry and academia. In this article, we describe a deep investigation of the features that both from an automatic and a human point of view, are more predictive for the identification of social network profiles accountable for spreading fake news in the online environment. To achieve this goal, the features of the monitored users were extracted from Twitter, such as social and personal information as well as interaction with content and other users. Subsequently, we performed (i) an offline analysis realized through the use of deep learning techniques and (ii) an online analysis that involved real users in the classification of reliable/unreliable user profiles.

[11] Bing Liu et.al., has proposed in this paper in this paper, six types of air pollutant concentrations are taken as the research object, and the data monitored by the micro air quality detector are calibrated by the national control point measurement data. We use correlation analysis to find out the main factors affecting air quality, and then build a stepwise regression model for six types of pollutants based on 8 months of data. Taking the stepwise regression fitting value and the data monitored by the miniature air quality detector as input variables, combined with the multilayer perceptron neural network, the SRA-MLP model was obtained to correct the pollutant data. We compared the stepwise regression model, the standard multilayer perceptron neural network and the SRA-MLP model by three indicators. Whether it is root mean square error, average absolute error or average relative error, SRA-MLP model is the best model. Using the SRA-MLP model to correct the data can increase the accuracy of the self-built point data by 42.5% to 86.5%. The SRA-MLP model has excellent prediction effects on both the training set and the test set, indicating that it has good generalization ability. This model plays a positive role in scientific arrangement and promotion of miniature air quality detectors. It can be applied not only to air quality monitoring, but also to the monitoring of other environmental indicators. The air quality index (AQI) is a dimensionless index that quantitatively describes the condition of air quality. It is often used to measure the quality of air quality. the main pollutants participating in the air quality assessment are PM2.5, PM10, CO, NO2, SO2, O3, etc. Therefore, to realize the monitoring of air quality, it is very important to monitor the concentration of two dusts and four gases" in real time. Many countries have established national monitoring and control stations to monitor air pollutant concentrations. Although the national control point is more accurate in monitoring pollutants, the cost of deployment is high, the number of deployments is small, and the maintenance costs are high. Therefore, it is difficult for the national control point to achieve full control. The miniature air quality detector developed by some companies has successfully improved these shortcomings, but the accuracy of monitoring needs to be improved.

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[12] Xishuang Dong et.al., has proposed in this paper News in social media such as Twitter has been generated in high volume and speed. However, very few of them can be labelled (as fake or true news) in a short time. In order to achieve timely detection of fake news in social media, a novel deep two-path semi-supervised learning model is proposed, where one path is for supervised learning and the other is for unsupervised learning. These two paths implemented with convolutional neural networks are jointly optimized to enhance detection performance. In addition, we build a shared convolutional neural network between these two paths to share the low-level features. Experimental results using Twitter datasets show that the proposed model can recognize fake news effectively with very few labelled data. We introduce the proposed model in the context of fake news detection. Suppose the training data consist of total N inputs, out of which M are labelled. The inputs are tweets that contain sentences related to fake news. We employ word embeddings (Manolov et al., 2013) to represent input xi (i∈ 1...N) as "images", where each row in the "image" represents one word in the tweet as embeddings and the number of rows is the number of words in the tweet. In this paper, a novel deep learning model is proposed for fake news detection in social media. Because of the fast propagation of fake news, timely detection is critical to mitigate their effects. However, usually very few data samples can be labelled in a short time, which in turn makes the supervised learning models infeasible. Hence, a deep semi-supervised learning model is proposed. The two paths in the proposed model generate supervised loss (cross-entropy) and unsupervised loss (Mean Squared Error), respectively. Then training is performed by jointly optimizing these two losses. Experimental results indicate that the proposed model could detect fake news from PHEME datasets effectively by using limited labelled data and lots of unlabelled data. In the future, we plan to examine the proposed model on other NLP tasks such as sentiment analysis.

[13] GIUSEPPE SANSONETTI et.al., has proposed in this paper Since the harmful consequences of the online publication of fake news have emerged clearly, many research groups worldwide have started to work on the design and creation of systems able to detect fake news and entities that share it consciously. Therefore, manifold automatic, manual, and hybrid solutions have been proposed by industry and academia. In this article, we describe a deep investigation of the features that both from an automatic and a human point of view, are more predictive for the identification of social network profiles accountable for spreading fake news in the online environment. To achieve this goal, the features of the monitored users were extracted from Twitter, such as social and personal information as well as interaction with content and other users. Subsequently, we performed (i) an offline analysis realized through the use of deep learning techniques and (ii) an online analysis that involved real users in the classification of reliable/unreliable user profiles. The experimental results, validated from a statistical point of view, show which information best enables machines and humans to detect malicious users. We hope that our research work will provide useful insights for realizing ever more effective tools to counter misinformation and those who spread it intentionally. This last operation made use of two types of analysis: the offline one, performed by training classifiers with labelled data, and the online one, carried out by involving real testers in the evaluation of previously uncategorized data. The results obtained in the experimental evaluations show that for content categorization the objective of discriminating fake from real news has been achieved, with an average accuracy of 90%. Regarding the reliability prediction of the Twitter profiles evaluated in the offline analysis, an accuracy value of about 92% was achieved in the prediction, which is partly reflected in the online analysis (average accuracy of 54%), in which real users were asked to distinguish between real and fake profiles.

III. PROBLEM IDENTIFICATION

Variety of shared information is the realistic part of social media. From 2017, fake news has become a very considerable topic until now, which 365% frequently used online.Struggling with fake news becomes an unsolved problem in social networks in the data and information consumption application layer and becomes a serious and challenging issue in information advancement that appears in diplomatic, economic, and political sectors.The fake information revelation points to the unnecessary process in the network resources. Moreover, it contains the content totality and validity based on the available service. Therefore, the wrong information sharing relevance the Quality of Trust (QoT) to apply on the news distribution.

The rise of the social media can have a negative impact on the society when the network is used for circulating the mis-information or the fake news which can lead chaos in the society.The existing system can only detect the fake news and the posts but left the important to the users to choose among the fake or real news. It is important to take an action on the user who has produced a fake post or information in the social media. These accounts related to the fake information produced are blocked by the Blockchain approaches where our user is registered into it.Natural Language Processing and Reinforcement Learning are used for the identification of the fake news in the network.

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REFRENCES

[1] A. Balouchestani, M. Mahdavi, Y. Hallaj, and D. Javdani, ''SANUB: A new method for sharing and analysing news using blockchain,'' in Proc. 16th Int. Conf. Inf. Security. Cryptol. (ISCISC), Aug. 2019, pp. 139–143.
[2] A. Qayyum, J. Qadir, M. U. Janjua, and F. Sher, ''Using blockchain to rein in the new post-truth world and check the spread of fake news,'' IT Prof., vol. 21, no. 4, pp. 16–24, Jul. 2019.
[3] S. Paul, J. I. Joy, S. Sarker, H. Shakib, S. Ahmed, and A. K. Das, ''Fake news detection in social media using blockchain,'' in Proc. 7th Int. Conf. Smart Comput. Commun. (ICSCC), Jun. 2019, pp. 1–5.
[4] Z. Shae and J. Tsai, ''AI blockchain platform for trusting news,'' in Proc. IEEE 39th Int. Conf. Distrib. Comput. Syst. (ICDCS), Jul. 2019, pp. 1610–1619
[5] Y. Wang, W. Yang, F. Ma, J. Xu, B. Zhong, Q. Deng, and J. Gao, ''Weak supervision for fake news detection via reinforcement learning,'' in Proc. AAAI Conf. Artif. Intell., vol. 34, 2020, pp. 516–523.
[6] A. Chokshi and R. Mathew, ''Deep learning and natural language processing for fake news detection: A survey,'' SSRN Electron. J., Jan. 2021. [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm? abstract_id=3769884
[7] N. R. de Oliveira, P. S. Pisa, M. A. Lopez, D. S. V. de Medeiros, and D. M. F. Mattos, ''Identifying fake news on social networks based on natural language processing: Trends and challenges,'' Information, vol. 12, no. 1, p. 38, Jan. 2021
[8] A. Koirala, ''COVID-19 fake news classification using deep learning,'' Tech. Rep., 2020. [Online]. Available: https://www.cs.ait.ac.th/ xmlui/handle/123456789/981
[9]I. S. Ochoa, G. D. Mello, L. A. Silva, A. J. Gomes, A. M. R. Fernandes, and V. R. Q. Leithardt, ''FakeChain: A blockchain architecture to ensure trust in social media networks,'' in Proc. Int. Conf. Qual. Inf. Commun. Technol. Algarve, Portugal: Springer, 2019, pp. 105–118.
[10] H. Gill and H. Rojas, ''Chatting in a mobile chamber: Effects of instant messenger use on tolerance toward political misinformation among south Koreans,'' Asian J. Commun., vol. 30, no. 6, pp. 470–493, Nov. 2020.
[11] B. Liu, Q. Zhao, Y. Jin, J. Shen, and C. Li, ''Application of combined model of stepwise regression analysis and artificial neural network in data calibration of miniature air quality detector,'' Sci. Rep., vol. 11, no. 1, Dec. 2021, Art. no. 3247.
[12] X. Dong, U. Victor, S. Chowdhury, and L. Qian, ''Deep two-path semi-supervised learning for fake news detection,'' 2019, arXiv:1906.05659. [Online]. Available: http://arxiv.org/abs/1906.05659
[13] G. Sansonetti, F. Gasparetti, G. D'Aniello, and A. Micarelli, ''Unreliable users' detection in social media: Deep learning techniques for automatic detection,'' IEEE Access, vol. 8, pp. 213154–213167, 2020.

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