1. **Title of proposed idea / innovation.**

* Fake News Detection by Machine Learning.

1. **Briefly explain newness/uniqueness of the innovation.**

* A requirements validation is concerned to check whether the requirements

actually define the system, which the customer wants? Requirements validation

is important because errors in requirements document can lead to extensive

rework costs when they are subsequently discovered. We have performed the

following validation checks.

**• Validity checks**

Check whether the information entered is in valid format.

**• Consistency checks**

A requirement in a document is not conflicting.

**• Completeness checks**

The requirements document includes requirement, which define all functions,

and constraints intended by the system user.

**• Realism checks**

Using knowledge of existing technology, the requirements are checked to

ensure that they could actually be implemented.

**• Verifiability**

The requirements are given in verifiable manner (e.g.: Using quantifiable

measures) to reduce disputes between client and developer.

1. **Concept & Objective.**

* **CONCEPT: -**

The system works on already trained Machine Learning algorithms. Multiple

machine learning algorithms have been trained by providing a data set of both fake

and authentic news. The summary of overall procedure is as follows.

1. User enters URL.

2. URL is verified if entered text is in URL format or not, then web crawler extracts

relevant text from that news URL.

3. NLP is applied on text extracted.

4. Features extracted from NLP are fed to ML Algorithms.

5. There’s a voting mechanism among ML algorithms, which predicts whether the

news is fake or authentic.

6. Each classified gets stored in the database.

7. A user can login to give feedback if previously classified news was.

* **OBJECTIVE: -** The main objective behind the development and upgradation of existing projects are the following smart approaches:

• Be Aware of such article while forwarding to others

• Reveal True stories

• Prevent from false crisis events

• Be Informative

1. **Specify the potential areas of application in industry/market in brief.**

* Nowadays, financial news is an indispensable source for investors to conduct research and investment decisions. At the same time, there are many fake financial news flooded into people's daily life. This kind of information may affect public opinion and provide opportunities for some criminals to manipulate the financial market. However, due to the lack of available comparative information, the model based on linguistic features is much less effective in the real world. We believe that multi-source fact comparison and inspection should be integrated into the false news detection model to detect fake news. As the crystallization of collective wisdom, user comments can be of great benefit to this task. News sources are also crucial for detecting. Besides, existing models often ignore one point that financial fake news usually talks about the relevant market, so the market data should be token into consideration. Our proposed multi fact CNNLSTM model integrates all these dimensions mentioned above and performs well. Specially, we use attention mechanism to extract the information from the comments and make a list of authoritative websites to identify the source of news. As for the market dimension, according to the financial products mentioned in the news, we get market price and check whether the statements in the article are correct. Finally, we assign a weight to each dimension and let the model learns by itself.

1. **Briefly provide the market potential of idea/innovation.**

* Fake news has become a global phenomenon due its explosive growth, particularly on social media. The goal of this tutorial is to (1) clearly introduce the concept and characteristics of fake news and how it can be formally differentiated from other similar concepts such as mis-/dis-information, satire news, rumors, among others, which helps deepen the understanding of fake news; (2) provide a comprehensive review of fundamental theories across disciplines and illustrate how they can be used to conduct interdisciplinary fake news research, facilitating a concerted effort of experts in computer and information science, political science, journalism, social science, psychology and economics. Such concerted efforts can result in highly efficient and explainable fake news detection; (3) systematically present fake news detection strategies from four perspectives (i.e., knowledge, style, propagation, and credibility) and the ways that each perspective utilizes techniques developed in data/graph mining, machine learning, natural language processing, and information retrieval; and (4) detail open issues within current fake news studies to reveal great potential research opportunities, hoping to attract researchers within a broader area to work on fake news detection and further facilitate its development. The tutorial aims to promote a fair, healthy and safe online information and news dissemination ecosystem, hoping to attract more researchers, engineers and students with various interests to fake news research. Few prerequisites are required for KDD participants to attend.

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