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**Topic: Artificial Intelligence/Machine Learning**

**Article: Determining Fake Statements Made by Public Figures by Means of Artificial Intelligence**

**Citation: M. Granik, V. Mesyura and A. Yarovyi, "Determining Fake Statements Made by Public Figures by Means of Artificial Intelligence," *2018 IEEE 13th International Scientific and Technical Conference on Computer Sciences and Information Technologies (CSIT)*, Lviv, 2018, pp. 424-427**

**Summary of Article:**

With all the information that’s available to us at our fingertips, not all of the information is accurate and truthful. The article is about using different AI algorithms in the scikit-learn library to train and detect true or false statements made by famous public figures. The dataset contains 10,460 entries in total, 7,569 were for training and 2,891 for testing. The dataset were pre-processed before it was trained on various models on classification. Even though classifications is simple, the results found that the more complex the model, the more accurate it is. In the end, deep neural networks was the most accurate at 81% for classification accuracy based on six categories and 86% for binary classification. This just shows why neural networks algorithm will continue to be popular in the AI world.

**Article Purpose:**

The purpose of this article was to share different approaches within the scikit-learn library to demonstrate how AI can determine the validity of a statement. The authors really focused on the accuracy of each algorithm.

**Methodology**

The authors used 10,460 statements (7,569 to train and 2,891 to test) from PolitiFact.com. The dataset was clean to remove numbers, punctuations, and splitting the statements into tokens. Then different algorithms were used to classified the statements into 6 categories (pants on fire, false, mostly false, half-true, mostly true, and true). Binary classification was also used, so the statement is either true or false. The same dataset was then used across different algorithms (Logistic Regression, Naïve Bayes, Random Forrest, Support Vector Machines, and Deep Neural Networks) to compare the accuracy between them.

**Conclusion**

After applying the different algorithms to classify the statements, it was determined that the most complex algorithm, deep neural net, is the most accurate in determining the accuracy of the statements. The authors suggested in the article that to get better results, a bigger sample size should be used, and the metadata should also be used to train the models.

**Article Strengths:**

This article provided different analysis of the algorithms and the results by testing on actual data. It gives It also went in depth about how each algorithms function and alternatives to make the model more accurate. This shows that the authors understand how each algorithm work and better answer the questions that it’s trying to solve.

**Article Weaknesses:**

As the authors mentioned, the sample size is small and the metadata was not taken into account. I feel by increasing the sample size and adding a metadata classification, the results would better show how AI can determine if a statement is true or false. In addition to that, I feel like there was a lack of example as to what is a true or false statement and how they each fit in the 6 categories. If the authors provide that, it would be more engaging for the readers and it can be more engaging for the readers.

**Recommendation:**

The authors want to further this research by fine tuning the models and changing the parameters. They concluded that Deep Neural Networks is the most accurate models and it will be used in other research, but it could be improved. Other artificial intelligence approaches that were not implemented in this article will be considered as well in future research.

**Checklist:**

Number of Authors: 3

Number of Citations of Article: 14

Number of Citations to other articles: 1

Methodology Explained (Yes/No): Yes

Technology Explained (Yes/No): Yes

Experiments and Data Reviewed (Yes/No): Yes

Conclusion Exist (Yes/No): Yes

Recommendations Exist (Yes/No): Yes