

**CERTIFICATE**

This is to certify that **Mr. Parth Patel, Enrollment No. 2405102120006** student(s) of Master of Computer Applications has/have satisfactorily completed the Seminar on **“AI-BASED FAKE NEWS DETECTION USING NLP”** as fulfillment of MSCIT Semester II.

Seat No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date of Submission: \_\_\_\_\_\_\_\_\_\_\_

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**Abstract**

Fake news is a serious problem in today’s digital world. It spreads quickly through social media and online platforms, often affecting public opinion, elections, and even health information. Traditional fact-checking methods are too slow to handle the large amount of fake content online. That’s why using **Artificial Intelligence (AI)** and **Natural Language Processing (NLP)** is important for detecting fake news automatically.

This paper reviews how modern AI techniques like **BERT**, **RoBERTa**, and **XLNet** help in identifying whether news is real or fake. It also explains how **graph-based models** and tools like **LIME** and **SHAP** can make AI decisions more transparent and trustworthy. Techniques like **adversarial training** are discussed to improve the system’s resistance to fake content that tries to trick the model.

Well-known datasets such as **LIAR**, **FakeNewsNet**, and **ISOT** are used to test and compare the accuracy of these models. This review highlights the importance of understanding the meaning and context of text and checking the source of the news to detect fake information effectively.

In the end, this paper gives a simple overview of the latest developments and future possibilities in AI-based fake news detection, showing how NLP can help fight the spread of misinformation online.

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