

**DEEPASSESSOR: A CONTEXT-AWARE DEEP  
LEARNING-BASED SOLUTION FOR MULTI-CLASS  
FAKE NEWS DETECTION**

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# Abstract

Fake news is a type of story that has no basis in fact but presented as being factually accurate. It may have misleading, false, imposter, manipulated, fabricated content, or satire, parody, and propaganda with the intent to mislead people. During the last few years, there has been year-on-year growth in information emerging from various social media networks, blogs, Twitter, Facebook, etc. Detecting fake news, in proper time, is very important as otherwise, it might cause damage to social fabrics. That has gained much interest worldwide due to its impact on numerous aspects of life, politically, economically and socially. Ever since the 2016 US presidential election where fake news campaigns were launched to gain political advantage by misleading people, false news detection in the political domain has drawn significant attention in worldwide (Bovet and Makse, 2019).

Detecting fake news is significantly challenging due to many reasons: Firstly, language usage in fake news is complicated. Secondly, Fake news usually mixes true stories with false details, confusing to be recognized correctly. Thirdly, the fake news data sets are limited to carrying out extensive research identifying fake news patterns.

Numerous researches are currently carried out in data analysis, machine learning, and deep- learning aspects to identify the patterns and correlations between various fake news factors. Using traditional text mining and machine learning techniques is insufficient to detect fake news due to the aforementioned unique challenges in fake news. Utilizing deep learning in false news identification is the new state-of-the-art and seems promising.

This project presents a novel, context-aware, deep learning solution to identify the varies of the truths or credibility of the news statements in the political domain by utilizing external supportive claims. A supervised deep learning model is implemented by integrating many different network architectures that could explore the various features of speaker profiles and outside justification. Our deep learning model surpasses the current state-of-the-art with a 46.47 of f1 score and 46.97 of accuracy in six-way classification and 75.76 of f1 score and 76.04 of accuracy in two-way classification. A user-friendly interface is also developed to make predictions on the new political statements by integrating the best deep learning models produced by the research.

**Keywords:** Fake News Detection, Political Domain, Deep Learning, Natural Language Processing, Neural Networks