

# Machine Learning Based Fake News Detection

**Mahesh Pawar, Anuj Kasar, Rohit Satpute, Dr. M. R. Bendre**  
Pravara Rural Engineering College, Loni, Maharashtra, India

**Abstract:** *In Social media, it is a popular medium for the dissemination of real-time news all over the world. Easy and quick information proliferation is one of the reasons for its popularity. An extensive number of users with different age groups, gender, and societal beliefs are engaged in social media websites. Despite these favorable aspects, a significant disadvantage comes in the form of fake news, as people usually read and share information without caring about its genuineness. It is imperative to research methods for the authentication of news. To address this issue, this article proposes a two-phase benchmark model named FakeNews based on word embedding (WE) over linguistic features for fake news detection using machine learning classification. The first phase preprocesses the data set and validates the veracity of news content by using linguistic features. The second phase merges the linguistic feature sets with WE and applies classification. To validate its approach, this article also carefully designs a novel FakeNewsdata set with approximately thousands articles, which incorporates different data sets to generate an unbiased classification output.*

**Keywords:** Fake News, User Profile, Trust Analysis, machine learning, Social Media

## REFERENCES

- [1]. Terry Traylor, Jeremy Straub, Gurmeet, Nicholas Snell” Classifying Fake News Articles Using Natural Language Processing to Identify In-Article Attribution as a Supervised Learning Estimator”2019.
- [2]. Rohit Kumar Kaliyar” Fake News Detection Using A Deep Neural Network”2018.
- [3]. Daniel (Yue) Zhang, Dong Wang, Nathan Vance, Yang Zhang, and Steven Mike” On Scalable and Robust Truth Discovery in Big Data Social Media Sensing Applications” 2018.
- [4]. ZaitullradahMahid,SelvakumarManickam,ShankarKaruppayah” Fake News on Social Media: Brief Review on Detection Techniques” 2018.
- [5]. Namwon Kim, DeokjinSeo, Chang-Sung Jeong” FAMOUS: Fake News Detection Model based on Unified Key Sentence Information” 2018.
- [6]. OluwaseunAjao, DeepayanBhowmik, ShahrzadZargari” Fake News Identification on Twitter with Hybrid CNN and RNN Models”2018.
- [7]. Hunt Allcott Matthew Gentzkow” SOCIAL MEDIA AND FAKE NEWS IN THE 2016 ELECTION” 2017
- [8]. MykhailoGranik, VolodymyrMesyura” Fake News Detection Using Naive Bayes Classifier”2017
- [9]. Kai Shu , Amy Sliva , Suhang Wang , Jiliang Tang , and Huan Liu” Fake News Detection on Social Media: A Data Mining Perspective”2016
- [10]. MeitalBalmas” When Fake News Becomes Real: Combined Exposure to Multiple News Sources and Political Attitudes of Inefficacy, Alienation, and Cynicism” 2014
- [11]. Daniel (Yue) Zhang, Chao Zheng, Dong Wang, Doug Thain, Chao Huang, Xin Mu, Greg Madey .”Towards Scalable and Dynamic Social Sensing Using A Distributed Computing Framework.” Department of Computer Science and Engineering Department of Aerospace and Mechanical Engineering University of Notre Dame Notre Dame, IN, USA IEEE 2017.
- [12]. Daniel (Yue) Zhang, Dong Wang, Hao Zheng, Xin Mu, Qi Li , Yang Zhang.” Large-scale Point-of-Interest Category Prediction Using Natural Language Processing Models.” Department of Computer Science and Engineering Department of Aerospace and Mechanical Engineering University of Notre Dame Notre Dame, IN, USA IEEE 2017.

- [13]. Daniel (Yue) Zhang, Rungang Han, Dong Wang, Chao Huang.” On Robust Truth Discovery in Sparse Social Media Sensing.” Department of Computer Science and Engineering University of Notre Dame Notre Dame, IN, USA IEEE 2016