

Name	Fake news detection on social media: A mining perspective (1708.01967v3)	A survey on natural language processing for fake news detection (1811.00770v2)	Fake news detection on social media using geometric deep learning (1902.06673v1)	Unsupervised fake news detection on social media: a generative approach (4508-Article Text-7547)	Fake News Detection in Social Networks via Crowd Signals	A Comprehensive Study of Spam Detection	A Survey on Natural Language Processing for Fake News Detection
Author	Unavailable	Kirilin et al.	Federico Monti, Fabrizio Frasca, Davide Eynard, Damon Mannion, Michael M. Bronstein	Shuo Yang, Kai Shu, Suhang Wang, Renjie Gu, Fan Wu, Huan Liu	Sebastian Tschiatschek, Adish Singla, Manuel Gomez Rodriguez, Arpit Merchant, Andreas Krause	Jai Batra, Rupali Jain, Vinay A. Tikkiwal, Amrita Chakraborty	Ray Oshikawa, Jing Qian, William Yang Wang
Published Year		2017	2018	2019	2019	2018	2020
Model Used	Not explicitly mentioned, focus on content and social context-based methods	LSTM + Attention models, Neural networks	Geometric Deep Learning Model	Unsupervised Generative Bayesian model	Bayesian algorithm ("Detective"), uses Bayesian inference and posterior sampling	k-Nearest Neighbors (k-NN) with bio-inspired algorithms like Grey Wolf Optimization, Firefly Optimization, etc.	NLP models including SVMs, CNNs, LSTMs, and attention-based neural networks
Approach	Data-oriented, feature-oriented, model-oriented, application-oriented fake news detection	Focus on classification using various datasets (LIAR, FEVER, FAKENEWSNET); use of meta-data for verification	Explores fake news detection using graph convolution networks and propagation features	Bayesian Network capturing dependencies between news authenticity and user credibility	Leverages crowd signals (user flags) to detect fake news, learning users' accuracy over time	Uses bio-inspired optimization techniques to enhance k-NN classifier for spam detection	The paper systematically reviews NLP solutions for fake news detection, comparing task definitions, datasets, and model performances.
Results	N/A	LSTM-based models outperform CNN-based ones; attention mechanisms improve fake news detection accuracy	Achieved 92.7% ROC AUC in URL-wise classification and 88.3% in cascade-wise classification	UFD outperforms unsupervised benchmarks like Majority Voting, TruthFinder, and achieves high precision, recall, F1	Effective in leveraging user flags for detecting fake news, converging to optimal results	Optimized classification results with bio-inspired algorithms outperforming standard k-NN	LSTM-based models generally achieve higher accuracy compared to CNN-based models. Use of additional metadata (e.g., speaker credibility) improves performance.
Future Work	Create benchmark datasets, capture psychological patterns like echo chambers, focus on early detection	Investigate use of neural networks for combining hand-crafted features, careful use of speaker credibility data	Investigate model aging and generalization over time, more robust content-free fake news detection approaches	Incorporate news content features into the model, explore semi-supervised frameworks	Explore the trustworthiness of sources and deploy in real-world social systems	Further improvement in spam detection methodologies	Exploring more fine-grained, detailed, and practical models for fake news detection; expanding available datasets and approaches.
Methodology	Review of literature on fake news detection, categorizing into feature extraction and model development methods	Compare results of different fake news detection models on benchmark datasets (LIAR, FEVER, FAKENEWSNET)	Graph-based learning approach combining user profiles, news content, and social network propagation patterns	Uses Gibbs sampling to infer news authenticity and user credibility based on engagement features	Bayesian inference, learning user flagging accuracy, real-time inference via posterior sampling	Combines k-NN classification with bio-inspired optimization for better accuracy	Reviews datasets such as LIAR, FEVER, and FAKENEWSNET, and discusses task formulations (e.g., classification, regression) along with feature extraction techniques (e.g., RST, LIWC).
Conclusion	Highlights future needs for large-scale datasets, effective features, and content detection based on psychological effects	Emphasis on the importance of attention mechanisms and meta-data for improving detection robustness	Propagation-based features perform better than content-based features; model works well across different time frames	Unsupervised approach using social media engagement outperforms traditional unsupervised methods	Algorithm "Detective" robustly detects fake news even with adversarial users, and is effective at leveraging crowd signals	Bio-inspired techniques significantly improve the efficiency and accuracy of spam detection	NLP solutions for fake news detection have made progress, but more research is needed in creating detailed and practical models, as well as improving dataset quality.

Name	LiAr, LiAr Pants on Fire: A New Benchmark Dataset for Fake News Detection" by William Yang Wang (2017)	Text Mining with Sentiment Analysis on Seafarers' Medical Documents"	Fake News Detection Using Machine Learning Ensemble Methods	FakeBERT: Fake News Detection in Social Media with a BERT-based Deep Learning Approach	Classification of Spam Emails Using BIC Optimization and k-NN	Using Social Media to Detect Fake News Information Related to Product Marketing: The FakeAds Corpus	Fake news detection: A hybrid CNN-RNN based deep learning approach
Author	William Yang Wang .	Nalini Chintalapudi, Gopi Battineni, Marzio Di Canio, Getu Gamo Sagaro, Francesco Amenta(2)	Ifkhar Ahmad, Muhammad Yousof, Suhail Yousof, Muhammad Ovais Ahmad	Rohit Kumar Kaliyar, Anurag Goswami, Pratik Narang	J. Batra, R. Jain, V.A. Tikkiwal	Noha Alaswazi, Najlaa Alsaedi, Fahad Alharbi, Najla Alaswad	J.A. Nasir, O.S. Khan, I. Varlamis
Published Year	2017.	2021(2)	2020	2021	2021	2022	2021
Model Used	Convolutional Neural Networks (CNN), Bi-LSTM, Support Vector Machines (SVM), Logistic Regression .	Naive Bayes, Lexicon sentiment analysis(2)	Machine Learning Ensemble Learners (Bagging, Boosting, Voting Classifiers)	BERT combined with CNN blocks (FakeBERT)	k-NN (k-Nearest Neighbors) integrated with BIC Optimization algorithms (GWO, CSO, FOA, GOA, WOA)	Supervised ML-based model, incorporating Named Entity Recognition and Text Mining (TM) for automatic fake news detection on Twitter	Hybrid CNN-RNN model combining Convolutional Neural Networks (CNN) and Recurrent Neural Networks (RNN)
Approach	Hybrid CNN model combining text and metadata for fake news detection .	Sentiment analysis and text mining applied to 3 years of medical documents for seafarers(2)	Ensemble methods combining various machine learning algorithms such as Logistic Regression, SVM, Decision Trees, etc..	Uses BERT as a sentence encoder combined with CNN blocks for improved bidirectional understanding of text features.	BIC optimization algorithms combined with different distance metrics (Euclidean, Manhattan, Chebyshev) for spam email classification using k-NN.	Text mining tools with annotated datasets, using supervised ML methods focused on binary classification of fake and real news.	The model extracts local features using CNN and learns long-term dependencies using LSTM (a type of RNN). Evaluated on two datasets: FA-KE5 and ISOT.
Results	Hybrid CNN outperformed text-only models for fake news detection, with accuracy improvement over standard CNN .	Achieved 96% correlation between medical problems and diagnosis, with sentiment analysis validated with 80% accuracy and precision(2)	The ensemble approach outperformed individual models, achieving up to 99% accuracy on certain datasets.	Achieved 98.9% accuracy, outperforming existing models for fake news detection.	The GOA algorithm provided the best accuracy (74%) and performance, while the WOA algorithm offered the shortest computation time (99.67 s).	High-quality annotation with F-score as high as 0.815; dataset provided a unique resource for ML systems.	Achieved better accuracy than non hybrid baseline methods, with accuracy of 60% on FA-KE5 dataset and 92% on ISOT dataset.
Future Work	Expanding into automatic fact-checking and political NLP research .	Extending text mining and sentiment analysis methods to other domains in maritime health research(2)	Investigating real-time fake news detection and identifying key sources in fake news spread via social networks.	Further refinement of BERT-based models and exploring social context information for enhanced detection accuracy.	The study suggests further exploration into hybrid optimization algorithms for spam detection and expanding the dataset for better generalization.	Further improvement on automatic detection models to enhance accuracy and extend the corpus for various social media platforms.	Improving generalization across datasets and optimizing hyperparameters using bio-inspired algorithms.
Methodology	Evaluation of 12.8K manually labeled short statements using different machine learning models .	Applied text mining methods and sentiment analysis on 3,112 seafarer medical documents collected from a telemedicine system(2)	Used ensemble techniques (bagging, boosting) and UWC to extract linguistic features, tested on four real-world datasets.	Combines bidirectional text representation using BERT and CNN for improved semantic capture and classification.	Employed a combination of BIC optimization algorithms and k-NN, evaluated with cross-validation, and compared performance across various metrics (accuracy, precision, recall, etc.).	Corpus collected using TweetScraper; Tweets were annotated at both tweet and word level for product classification.	Implemented using Python, Keras, TensorFlow. Dataset pre-processing involved tokenization and word embeddings (Glove), followed by training on two datasets.
Conclusion	Introduction of a large dataset (LIAR) enables development of computational methods for fake news detection, achieving better accuracy .	The study successfully demonstrates the effectiveness of text mining and sentiment analysis in understanding seafarers' medical issues(2)	Ensemble learners reduce error rates and outperform individual models in detecting fake news from multiple domains.	FakeBERT enhances the detection of fake news by capturing long-distance dependencies and semantic ambiguities.	BIC optimization integrated with k-NN shows promising results in classifying spam emails, with each algorithm showing strengths in different performance measures. WOA stands out for speed, and GOA for accuracy	The research demonstrates the need for tailored fake news detection models specifically for product marketing on Twitter. The FakeAds corpus aids in this development.	The hybrid CNN-RNN model shows promise for fake news detection but requires further refinement to handle generalization and avoid overfitting.