Project Topic: Fake News Detection Using the LIAR Dataset

The project will focus on developing a fake news detection system using the LIAR dataset, which consists of 12.8K human-labelled short statements from Politifact.com. The primary goal is to apply machine learning techniques to classify the truthfulness of these statements, exploring both traditional methods and modern neural networks. Fake news detection is a critical challenge in today's digital age, where misinformation can spread rapidly. We chose this topic to contribute to the growing body of research that aims to enhance the accuracy and efficiency of automated fact-checking tools. Our work will build on recent advancements in fake news detection systems and attempt to improve upon existing methods.

Three related research papers are:

- Xu, Cheng & Kechadi, Tahar. (2024). An Enhanced Fake News Detection System With Fuzzy Deep Learning. IEEE Access. 12. 88006 - 88021. https://dx.doi.org/10.1109/ACCESS.2024.3418340
- Ning, Xuefei & Wang, Zifu & Li, Shiyao & Lin, Zinan & Yao, Peiran & Fu, Tianyu & Blaschko, Matthew & Dai, Guohao & Yang, Huazhong & Wang, Yu. (2024). Can LLMs Learn by Teaching? A Preliminary Study. https://dx.doi.org/10.48550/arXiv.2406.14629
- Yuchen Zhang, Xiaoxiao Ma, Jia Wu, Jian Yang, and Hao Fan. 2024. Heterogeneous Subgraph Transformer for Fake News Detection. In Proceedings of the ACM Web Conference 2024 (WWW '24). Association for Computing Machinery, New York, NY, USA, 1272–1282. https://doi.org/10.1145/3589334.3645680