# Model Engineering College, Ernakulam

## Department of Computer Engineering

### B. Tech. Computer Science & Engineering

# **Real-Time Bias Detection and Analysis in News Articles Using NLP and ML**

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January 06, 2025

**Keywords**: Bias Detection, Natural Language Processing (NLP), Sentiment Analysis, Machine Learning (ML), Web Extension.

# **ABSTRACT**

This project aims to create a web extension that identifies and highlights bias in online news articles, enabling users to critically evaluate the information they consume. The extension will analyze articles in real-time, pinpointing biased or misleading lines and providing annotations for transparency. By integrating Natural Language Processing (NLP) techniques, the system will process text to extract patterns and classify sentiment, thereby offering an objective perspective on the article's content.

The primary goal of the project is Real-Time bias recognition that provies users with detailed annotations for the identified bias. Articles are collected from a diverse range of media outlets including mainstream conservative and liberal sources to ensure a balanced dataset for training the bias detection model. Data is preprocessed by cleaning the text, removing stopwords, lemmatizing, and n-gram generation. A machine learning model is implemented for detecting the bias.

The project helps promote media literacy by providing users with actionable insights into the content they read. By visualizing biases and potential misinformation, the extension will encourage balanced perspectives and informed decision-making. This solution addresses the growing concern of media polarization and its impact on public perception, contributing to a more transparent and equitable information landscape.

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# **References**

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