

# Proposal: Fake News Detection

## 1 Introduction

The propagation of news has transferred from through magazines or paper to through network. Although the cost and time consuming are reduced a lot in the advanced way for news propagation, such transition yields a common social issue simultaneously as well, which is the spread of fake news by groups or parties for various purposes such as commercial profits and political gains. For example, commenters suggest that Donald Trump won 2016 election under the influence of fake news [1]. Therefore, to maintain the authenticity and impartiality of news, machine learning has been widely employed for fake news detection or future fake news exploration. In this project, a comprehensive observation is conducted to the usage of machine learning methods, in terms of feature extraction and classification methods, in fake news detection.

## 2 Objectives

- Introduce methods of textual feature extraction. Compare the pros and cons of these methods.
- Explore existing methods for fake new detection (Decision Tree, Support Vector Machine, Naive Bayes, K-Nearest Neighbor, Logistic Regression, etc.) [2]. Illustrate how algorithms work and analyze their results.
- Summarize the pros and cons of methods and discover future research fields.

## 3 Members and Task Distribution

Name	Student ID	Research Field	Final Presentation
Zi Li	1780178	Feature Extraction	Feature extraction future work
Jianqiu Bai	1707499	Decision Tree	Classification method conclusion
Yao Wang	1780027	SVM	Classification method conclusion
Huanbin Chen	1780202	Naive Bayes	Classification method introduction
Weiham Song	1779478	KNN	Classification method future work
Haoru Xiao	1778458	Logitic Regression	Classification method introduction

## 4 Milestone

Date	Goal
Oct.13	Finish proposal
Nov.3	Search and read qualified articles for fake news detection
Nov.20	Finish draft for report
Dec.1	Write the report and prepare for the presentation

## References

- [1] H. Allcott and M. Gentzkow. Social media and fake news in the 2016 election. 31.2:211–236, May 2017.
- [2] S. Wang J. Tang K. Shu, A. Sliva and H. Liu. Fake news detection on social media: A data mining perspective. 19.1:15.