 Air University Multan campus

Department of Computer Science and Engineening

  
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Fake News Detection

**Project Proposal**

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<Autumn/Spring> <Gregorian Year>

**Revision Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Page#** | **Section#** | **Reviewer** | **Corrected by (Reviewer, Author)** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Table of Contents**

1. Introduction 4

2. The Problem 4

3. Project Goals and Objectives 4

3.1. Goals 4

3.2. Objectives 4

4. The Solution 4

5. Project Scope 4

6. Hardware and Software Tools 4

6.1.Hardware 4

6.2.Software 4

7. Cost (if applicable) 5

8. Timeline 5

8.1.Activity Network 5

8.2.Bar Chart

9. Roles and Responsibilities 5

10. Risk management 5

References 5

Appendices 6

# Introduction

Fake news has quickly become a society problem, being used to propagate false or rumor information in order to change people’s behavior. It has been shown that propagation of fake news has had a non-negligible influence of 2016 US presidential elections. A few facts on fake news in the United States:

• 62% of US citizens get their news for social medias

• Fake news had more share on Facebook than mainstream news.

Fake news has also been used in order to influence the referendum in the United Kingdom for the” Brexit”. In this paper I experiment the possibility to detect fake news based only on textual information by applying traditional machine learning techniques as well as bidirectionality and attention mechanism on two different datasets that contain different kinds of news. In order to work on fake news detection, it is important to understand what is fake news and how they are characterized.

1. The Problem

Fake news detection online is critical in today's society, as new news content is generated at a rapid rate due to the abundance of available technology. Claire Wardle has defined seven major types of fake news, with fake news material that can be visual or linguistic in nature within each category. Several approaches can be used to evaluate both linguistic and non-linguistic cues in order to spot false news. Although many of these strategies for detecting fake news are generally effective, they are not without flaws. You will learn from real news. If you want to buy stock in a business, you should read reliable articles about it first so you can make an informed investment. If you want to vote in an election, you can read as much details as possible about a candidate so that you can vote for the candidate who best expresses your ideas and beliefs.

# Project Goals and Objectives

The main goal is to identify fake news, which is a standard text classification issue with a simple solution. It is necessary to develop a model that can distinguish between "true" and "fake" news. The aim of this project is to use machine learning algorithms to determine the efficacy and limitations of language-based techniques for detecting false news.

# The Solution

# In this paper, we use a machine learning ensemble approach to suggest a solution to the problem of detecting false news. Our research looks into different textual properties that can be used to tell the difference between fake and real material. We train a combination of different machine learning algorithms using various ensemble methods that are not extensively discussed in the current literature using those properties. When exposed to articles from other domains, the algorithm trained works best on a specific form of article's domain and does not achieve optimal performance. It's difficult to train a generic algorithm that works well across all news domains because papers from different domains have different textual structures.

# Project Scope

Fake news is a dangerous problem that is spreading like wildfire as it becomes easier for facts to reach the general public in different forms. Despite several attempts to address the issue of fake news, no substantial progress has been made. The best models advance every day thanks to massive quantities of data obtained from social media platforms such as Facebook, Twitter, and others.

# Cost

Cost of our software will be determined as we proceed further but we can only tell the final price when we are done with the project.

# Timeline

We will achieve our first milestone by 30th April:

By this milestone, we would turn in our project proposal on GitHub. Our project's details will likely change throughout the semester, but it's important to have some starting point.

We will achieve our second milestone by 21st of May:

By this milestone, we would have implemented the “a” part of your Web application: Our application would be registered, optionally, to add some persistent data of their own such as user profile information or preferences.

We will achieve our third milestone by 28th May:

We must be able to open up several different Web browsers on a single computer, create independent user accounts, log in, remain logged in even after closing and re-opening their browser, do something in your app, and then log out.

We will achieve our fourth milestone by 5th June:

By this milestone, we would implement,

1. Frontend with React
2. Use Bootstrap for Styling
3. READ, CREATE, UPDATE, and DELETE tasks

# Roles and Responsibilities

Roles and responsibilities of project members should be clearly stated in the beginning of the project.

The following table can be used as a template:

|  |  |  |
| --- | --- | --- |
| **Role** | **Responsibilities** | **Participant(s)** |
| Project Leader |  |  |
| Analysis |  |  |
| Design |  |  |
| Implementation |  |  |
| Testing |  |  |
| Domain Experts |  |  |