SCHOOL OF COMPUTING
Faculty of Engineering

Project Proposal Form MCSD 6215
Sem:…One……. Session:……One……

SECTION A: Project Information.

Program Name: **Masters of Science (Data Science)**

Subject Name: **Project 1 (MCSD 6215)**

Student Name: ABDULLAHI ABDIRIZAK ADAM

Metric Number: MCS231037

Student Email & Phone: +60148525160

Project Title: Fake News detection Using Machine Learning

Supervisor 1: Dr.shahizan

Supervisor 2 / Industry Advisor(if any):

SECTION B: Project Proposal

Introduction:

Through the spread of digital news platforms, information has become more accessible than ever. But this has facilitated the propagation of false news which can have a profound effect on public opinion, the political landscape, and the trust in society. Here, we present a project that aims to use machine learning techniques to correctly identify and classify articles as fake news.

Problem Background:

Combine this with the fact that fake news can closely resemble legit journalism, and it becomes clear why readers struggle to distinguish between reliable and unreliable sources. To be specific, the consequences of fake news include the degradation of trust in media organizations, the distortion of public opinion, and the deepening of social schisms. Existing techniques for identifying false news are primarily manual fact-verifying which is costly and time-consuming. The lack of automated solutions for real-time identification of fake news is clear.

Problem Statement:

Social media platforms, websites, and news outlets are increasingly being flooded with fake news in recent years and it has become a pressing issue in the society. This makes it an very reliable source on which to base any training data. The real difficulty is creating a reliable, replicable, and automated way of sorting out the genuine news from the fake news note the focus here on news articles, not all fake messages. The manual detection of fake news is time-consuming and impractical for large applications, which emphasizes the need of automated detection systems. Its objective is to create a machine learning model that detects fake news articles based on the text content, headlines, and other metadata, making fake news detection faster and scalable.

Aim of the Project:

This project aims to build a machine learning based system to detect the fake news in textual data. In this system it will identify news articles as fake or real through NLP techniques and machine learning algorithm by analyzing the content, features, patterns and contextual information present in the articles. Using a labeled dataset, containing true and fake news articles, the project will aim to implement a strong classifier model to find automated solutions to the serious discourse of misinformation and misinformation in the digital world.

Objectives of the Project:

1)To pre-process and analyze the datasets to determine the distinguishing features of fake and real news articles.
2)To create a classification model using the high level machine learning algorithms
3) To detect fake news in real-time an end-to-end developing

Scopes of the Project:

The scope of the analysis is confined to the datasets presented (True. csv and Fake. csv), and The Pulp uses (English-language news articles.

The analysis is limited to textual data, excluding any multimedia data like images and videos.

The project involves learning machine learning skills with the natural language process and feature engineering skills.

Expected Contribution of the Project:

Machine learning based approach for cascade Classification of fake news and News detection and Classification.

Textual patterns of true and false news helping to understand the fake news propagation better.

We hope that in the future, the model can be integrated into current digital platforms to automate the fact-checking process.

Project Requirements:

Programming Language: Python

Libraries/Frameworks:

Data Handling: pandas, NumPy

For example, Visualization: Matplotlib, Seaborn

Software:

Dev Environment — Jupyter Notebook, Anaconda

CPU: at least an Intel i5 (or equivalent)

RAM: At least 8 GB (16 GB recommended for large datasets)

Storage: Minimum of 50GB of free space

GPU: Use it for training complex ML models

Technology/Technique/Methodology/Algorithm:

Tech: Natural Language Processing (NLP) and Machine Learning

Hardware:

Technology/Technique/ Methodology/Algorithm:

Preprocessing data (cleaning and normalizing the text)

Data Procedure: Exploratory Data Analysis (EDA)

Training machine learning classifiers

Type of Project (Focusing on Data Science):

[✔] Data Preparation and Modeling

[✔] Data Analysis and Visualization

[✔] Business Intelligence and Analytics

[ ] Machine Learning and Prediction

[ ] Data Science Application in Business Domain

Status of Project:

[✔] New

[ ] Continued

If continued, what is the previous title?

SECTION C: Declaration

I declare that this project is proposed by:

[✔] Myself

[ ] Supervisor/Industry Advisor ( )

Student Name:

Signature **Date**

SECTION D: Supervisor Acknowledgement

The Supervisor(s) shall complete this section.

I/We agree to become the supervisor(s) for this student under aforesaid proposed title.

Name of Supervisor 1: .....

Signature **Date**

Name of Supervisor 2 (if any): .....

Signature **Date**

SECTION E: Evaluation Panel Approval

The Evaluator(s) shall complete this section.

Result:

[ ] FULL APPROVAL [ ] CONDITIONAL APPROVAL (Major)*

[ ] CONDITIONAL APPROVAL (Minor) [ ] FAIL*

***** Student has to submit new proposal form considering the evaluators' comments.

Comments:

Name of Evaluator 1: .....

Signature ..... **Date** .....

Name of Evaluator 2: .....

Signature ..... **Date** .....