Beykoz University

Department of “Computer Engineering”

“Artificial Intelligence”

Final Project Report

Fake News Detection - Python

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Project name: Fake News Detection

Software Requirement -

Programming language – Python (latest version is recommended) ,

Libraries - Pandas & Numpy & Seaborn library

Project Description:

In this Python Project, my aim is to develop a machine learning program to identify when a news source may be producing fake news. I used a corpus of labelled real and fake articles to build a classifier that can make decisions about information based on the content from the corpus. Our model focuses on identifying sources of fake news, based on multiple articles originating from a source. Once a source is labelled as a producer of fake news, we predict that all future articles from the same source are also a producer of fake news.

What development tools that I used in my project:

Python 3.9

Google Collab

Numpy & Pandas (main) and other deep learning libraries

Open source datasets (.csv file)

Functional Requirements:

1.The system requires Python language

2.The system requires the “Pandas & Numpy” library.

3.Project requires 3 datasets in order to detect news whether it’s fake or not.

Detecting Fake News with Python

To build a machine learning model to accurately classify news as REAL or FAKE

The Dataset:

The dataset is open-source and can be found on the internet.

As it becomes clearer, the **real** and **fake** news can be found in two different .csv files.

Data Exploration:

The real news and the fake ones are reported into two csvs.

```
true_data = pd.read_csv('True.csv')
```

```
fake_data = pd.read_csv('Fake.csv')
```

```
true_data.head()
```

In this machine learning project, we built a classifier model using the supervised machine learning algorithm to verify if the information is false (fake). We are in the fantastic era of Deep Learning. One of the great thing about it is that while it is extremely difficult to train a state of art neural network, it is way easier and faster to use a pre -trained neural network, fine tune it and obtain state of art results on your dataset.

Little snippet screenshots from my project:

İmporting libraries & Datasets

Fake news Detection (Leyla Abdullayeva - 1904010038)

Importing required library

Here I am going to importing some of the required library, if extra library is required to insta

```
from google.colab import drive
drive.mount('/content/drive')
```

```
[2] import pandas as pd
    import numpy as np
    import seaborn as sns
    import matplotlib.pyplot as plt
    from sklearn.model_selection import train_test_split
    from sklearn.metrics import accuracy_score
    from sklearn.metrics import classification_report
    import re
    import string
```

Inserting fake and real dataset

```
[5] df_fake = pd.read_csv("Fake.csv")
    df_true = pd.read_csv("True.csv")
```