



**DCU School of Computing  
Final Year Project  
User Manual**

**Project Title: Fake News Detector**

CASE4

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# Installation Guide

My web application is run locally and is only available on a Linux OS like Ubuntu. If you want to use the Fake News Detector, you would have follow these steps.

Make sure you have Python3 installed and also 'pip' as pip is used for installing all of these tools.

To get Python3:

```
sudo apt-get update
sudo apt-get install python3.6
```

And for pip:

```
sudo apt update
sudo apt install python3-pip
pip3 --version
```

## Install Flask Framework

My web app is build upon the Python Flask framework so you would have to install it with these commands on Linux. You are going to need Python3:

```
sudo pip3 install virtualenv
```

- Create a parent directory

```
mkdir ~/flaskproject
cd ~/flaskproject
```

- Create a virtual environment

```
virtualenv flaskprojectenv

source flaskprojectenv/bin/activate
```

- Within the virtual environment:

```
pip install Flask
```

## Install Scikit-learn

You also need numpy and scipy:

```
pip install numpy scipy scikit-learn
```

## Install Pandas

```
sudo apt-get install python3-pandas
```

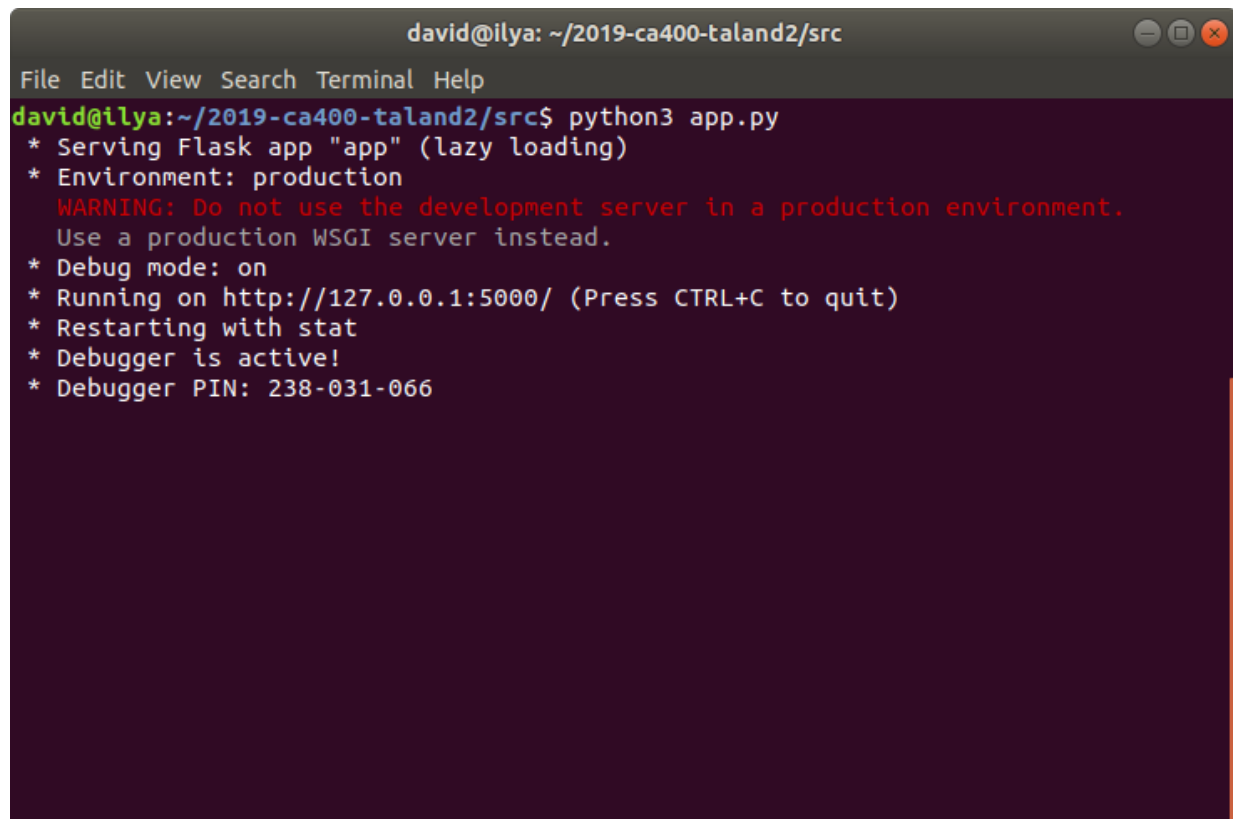
## Install googlesearch api

```
pip install google
```

## Install Newspaper3k API

```
sudo apt-get install python-dev  
sudo apt-get install libxml2-dev libxslt-dev  
sudo apt-get install libjpeg-dev zlib1g-dev libpng12-dev  
pip3 install newspaper3k
```

# Starting up the Web App

A terminal window with a dark background and light-colored text. The window title is 'david@ilya: ~/2019-ca400-taland2/src'. The menu bar shows 'File Edit View Search Terminal Help'. The prompt is 'david@ilya:~/2019-ca400-taland2/src\$'. The command 'python3 app.py' has been executed, resulting in the following output:

```
* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
* Restarting with stat
* Debugger is active!
* Debugger PIN: 238-031-066
```

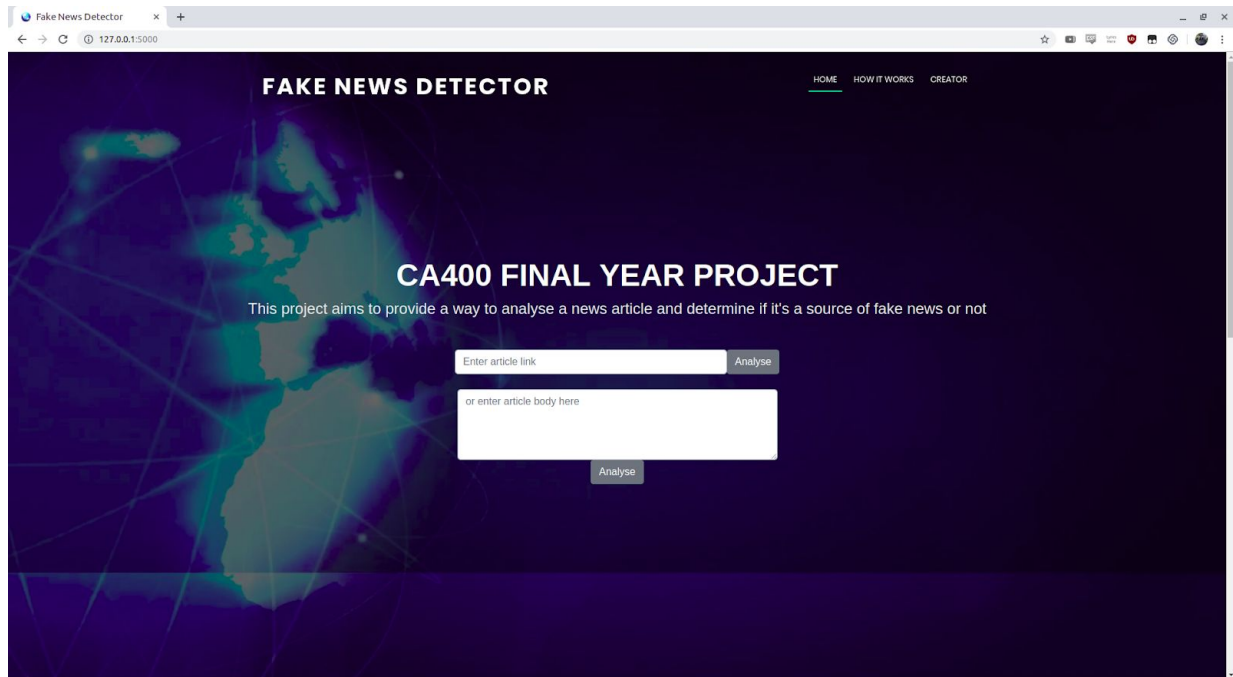
Go to your command line and go into the /src directory and run:

```
python3 app.py
```

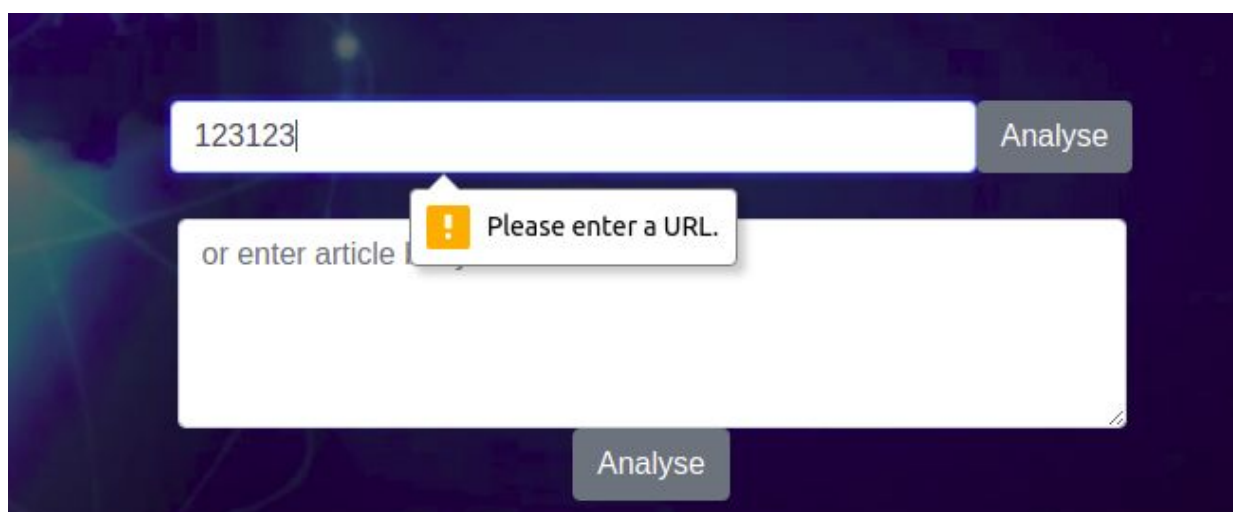
You can then click the link: <http://127.0.0.1:5000/> to visit the web app.

## Using the Fake News Detector

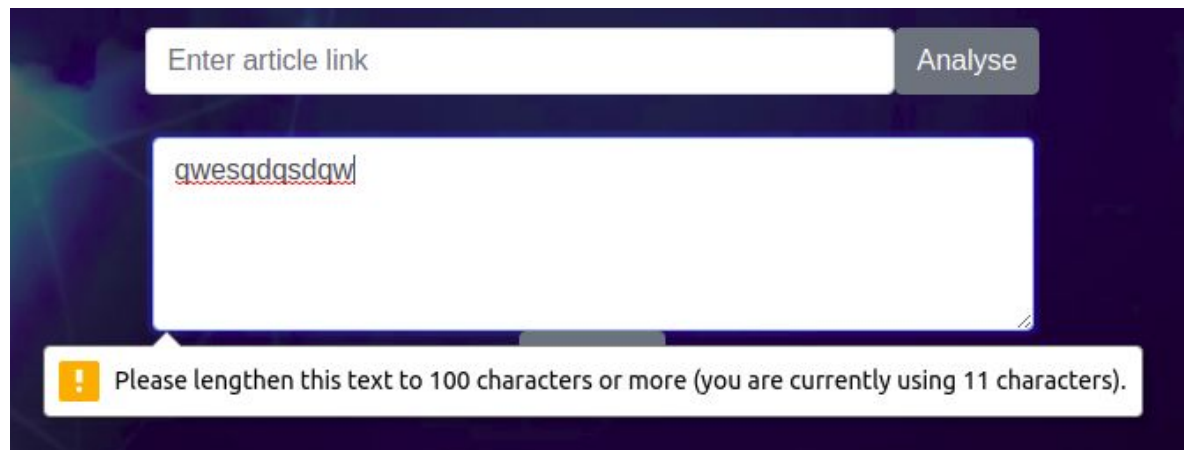
When you visit the home page, you will see two input boxes. You can either enter a link to an article that you want to check in the top or paste in the body of the article that you want check.



Please do enter a valid link



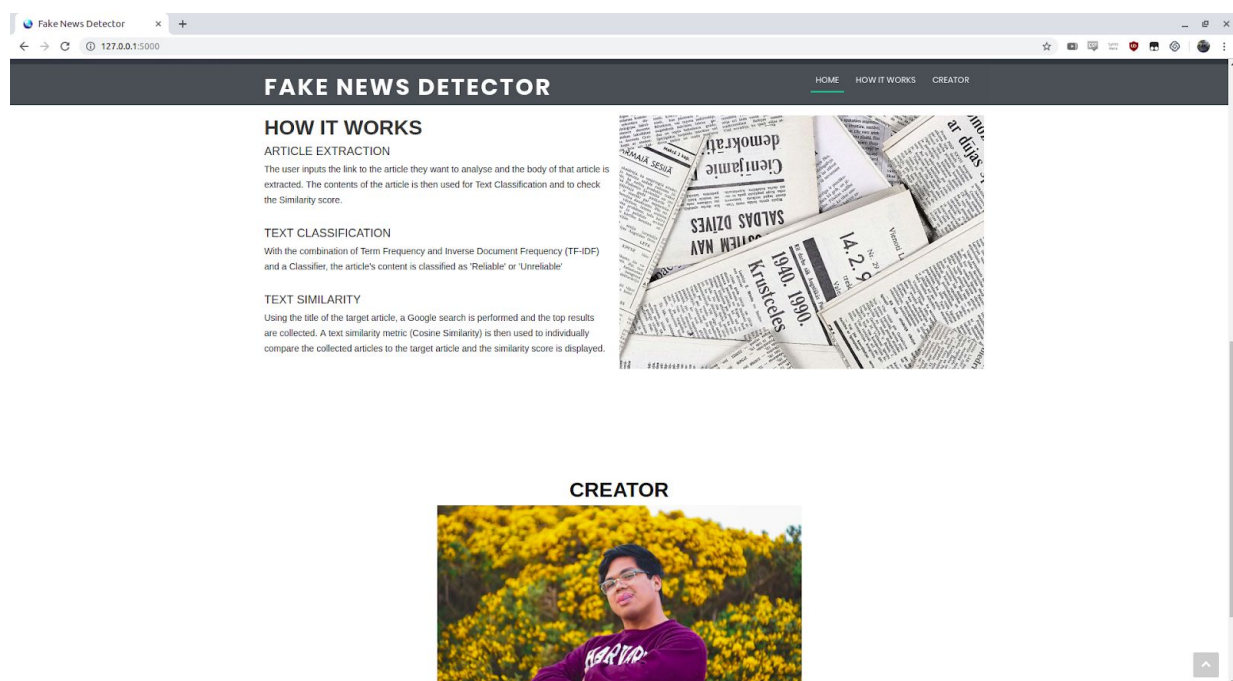
Or an article body that is long enough.



The screenshot shows a web interface with a dark purple background. At the top, there is a white input field labeled "Enter article link" and a grey button labeled "Analyse". Below the input field, the text "awesqdasdawl" is entered. At the bottom, a white message box with a yellow warning icon contains the text: "Please lengthen this text to 100 characters or more (you are currently using 11 characters)."

When you scroll down the page, there is a “How It Works” section that gives you a brief overview on how the system works.

There’s also a small “Creator” section with me in it.



When you input a link/body of text into the input boxes and click analyse, after a few seconds, you will be taken into the result page.

**FAKE NEWS DETECTOR**

**RESULT**

European elections 2019: Political climate may boost Greens

This news article has been classified as reliable and is supported by multiple articles

Analyse another article

or enter article body here

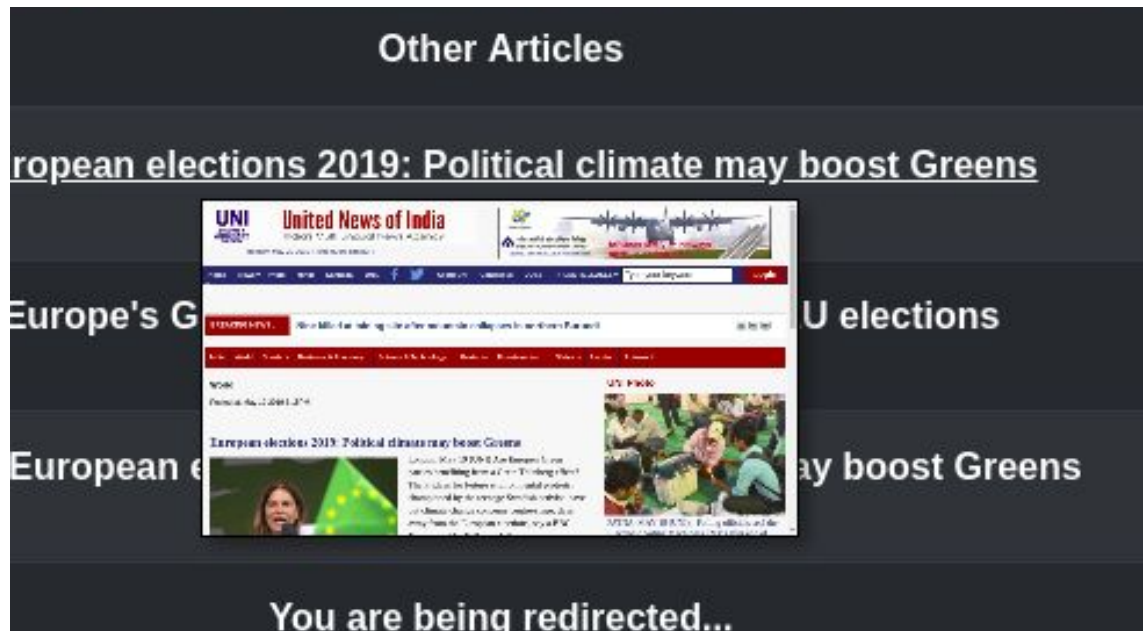
Other Articles	Source Sites	Similarity Score vs Original Article
European elections 2019: Political climate may boost Greens	www.uniindia.com	21.99436505%
Europe's Greens ready to be kingmakers in EU elections	www.theguardian.com	69.36867762%
Top: European elections 2019: Political climate may boost Greens	www.themaynepress.com	74.13436725%
You are being redirected...	www.eawaz.com	0.0%
European elections 2019: Political climate may boost Greens	theusbreakingnews.com	63.08224828%
Average Similarity Score		57.14491455%

At the top, you will see the article title that you put in, and below it is if it was deemed reliable or unreliable by the classifier.

The two input boxes are there again for you to use if you have another article that you want to check of its reliability.

A table is provided below with other articles that came back from a Google search using the article's title. On the first column, you have the different links you can click to visit the other articles. The second column shows you what site the article is from. The third column shows you how similar that article is in compared to the article that you inputted.

By hovering over the article's link on the first column, you are given a preview of the site that it came from.



The “Interpreting the Results” section gives some explanation to what you are seeing from the results table.

FAKE NEWS DETECTOR		
Article Title	Source Website	Similarity Score
European elections 2019: Political climate may boost Greens	www.theguardian.com	69.36867762%
Europe's Greens ready to be kingmakers in EU elections	www.themaynepress.com	74.13436725%
Top: European elections 2019: Political climate may boost Greens	www.eawaz.com	0.0%
You are being redirected...	theusbreakingnews.com	63.08224828%
European elections 2019: Political climate may boost Greens		
Average Similarity Score		57.14491455%

## Interpreting the Results

### Why is the similarity score 0%?

This could mean a few things:

- The extracted site is an aggregator site i.e. it contains the link to the article and not the article itself.
- There is a paywall on the site, meaning you have to be a subscriber to view the article.
- The extracted page might only contain images or embedded elements like tweets or Instagram posts and not an article that can be compared to.

### Where did the other articles come from?

The 'Other Articles' column is collected from a Google Search using the article title. Some results may be missing because Youtube videos are not included and also the source website is not added either.





**RESULT**

European elections 2019: Political climate may boost Greens

news article has been classified as reliable and is supported by multiple ar

Analyse another article

A witness, Mohamed el-Mandouh, told Reuters news agency he had heard a "very loud explosion" while sitting in traffic near the site of the blast, which is close to the capital Cairo.

Source Sites

mate may boost Greens [www.uniindia.com](http://www.uniindia.com)

Here's an example if inputting a body of text into the larger text box. This will analyse and classify the text itself as reliable or unreliable.

This time around, it will only tell you if it sees it as reliable or not.

**RESULT**

This body of article has been classified as reliable

Analyse another article

or enter article body here

It will also show you the original text you inputted.



## INPUT ARTICLE TEXT

a witness mohamed el mandouh told reuters news agency he had heard a very loud explosion while sitting in traffic near the site of the blast which is close to the capital cairo the blast hit the bus which was carrying 28 passengers egyptian tourism minister rania al mashat said images taken after police cordoned the bus show a vehicle with windows blown out or shattered and glass littering the aisle inside a private car was also damaged behind the bus egyptian officials hurried to confirm everything is under control no life threatening injuries all the wounded in a stable condition and no damage caused to the strategic tourist site they wanted to send a clear message of assurance but it s the second explosion in nearly six months near egypt s most important landmark the great pyramids and once again questions are raised about how adequate security measures are in such a strategic location the blast took place a few hundred metres away from the grand egyptian museum due to open next year officials confirm no damage was caused to the museum expected to house the country s top antiquities the timing of the explosion is quite critical egypt is getting ready to host the african cup of nations for football afcon next month