

Configuration Manual

MSc Research Project
Cyber Security

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MSc Project Submission Sheet



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Configuration Manual

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1 Introduction

This document presents all the necessary information required for executing the application for detecting malware using sensitive API.

2 System Requirements

- **Python3** - Python3 have been used for running the code. The system must have python3 installed in it in order to run the application.
- **Anaconda Version 3** –For executing the project in the required PC, Anaconda version 3 have to be installed. This can be easily found from the official website of anaconda. In order to run the python code, make sure you have the Jupiter notebook IDE installed in your PC.

2.1 Software Requirements

The software requirement for running this project is python3 for the purpose of coding the application. The operating system of the device using should be windows 7 or later.

Tool	Python IDLE
Python	version3 of python
OS	Windows 7 or above
Front End	Python

2.2 Hardware Requirements

The hardware requirements for this project are given below,
The processor should be a minimum of i3 or any version above it. The suggested RAM for running the application would be anything above 8GB RAM. A hard disk or a storage of 500GB or above is suggested for the smooth working of the application.

Processor	i3 or i5 (i5 is better)
RAM	8GB (Minimum)
Hard Disk	500GB or above

2.3 Packages used

The packages included in the project are:

1. **Pandas:**

Pandas is used in the application for reading the CSV files along with the data frames in the application.

To install pandas, follow the below code:

- pip install pandas

```
(base) C:\WINDOWS\system32>pip install pandas
Requirement already satisfied: pandas in c:\users\janish\anaconda3\lib\site-packages (1.1.0)
Requirement already satisfied: numpy>=1.15.4 in c:\users\janish\anaconda3\lib\site-packages (from pandas) (1.19.1)
Requirement already satisfied: pytz>=2017.2 in c:\users\janish\anaconda3\lib\site-packages (from pandas) (2019.3)
Requirement already satisfied: python-dateutil>=2.7.3 in c:\users\janish\anaconda3\lib\site-packages (from pandas) (2.8.1)
Requirement already satisfied: six>=1.5 in c:\users\janish\anaconda3\lib\site-packages (from python-dateutil>=2.7.3->pandas) (1.14.0)
```

2. **NumPy:** In order to perform the array operations in the project NumPy is imported. All the array operations in the project is carried out by **NumPy**.

To install **NumPy**, follow the below code:

- pip install numpy

```
(base) C:\WINDOWS\system32>pip install numpy
Requirement already satisfied: numpy in c:\users\janish\anaconda3\lib\site-packages (1.19.1)
```

3. **Matplotlib:** All the graphs required for the project are being plotted with the help **Matplotlib**.

To install **Matplotlib**, follow the below code:

- pip install matplotlib

```
(base) C:\WINDOWS\system32>pip install matplotlib
Requirement already satisfied: matplotlib in c:\users\janish\anaconda3\lib\site-packages (3.1.3)
Requirement already satisfied: pyparsing!=2.0.4,!>=2.1.2,!>=2.1.6,>=2.0.1 in c:\users\janish\anaconda3\lib\site-packages (from matplotlib) (2.4.6)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\janish\anaconda3\lib\site-packages (from matplotlib) (1.1.0)
Requirement already satisfied: python-dateutil>=2.1 in c:\users\janish\anaconda3\lib\site-packages (from matplotlib) (2.8.1)
```

4. **Pickle:** All the models that have been trained are saved using Pickle.

5. **Scikit Learn:** For supporting various algorithms in the project like random forest, K-Neighbours and also to support the python libraries.

To install **Scikit Learn**, follow the below code:

- pip install sklearn

6. **PIL:** In python programming languages, PIL is mainly used for opening image files as well as for editing them.

7. **TKinter:** GUI of the project have been developed and displayed using TKinter

3 Data Source

The dataset used in the project is obtained from Kaggle. This dataset can be freely downloaded from Kaggle.

<https://www.kaggle.com/shashwatwork/android-malware-dataset-for-machine-learning>



4 Code Execution

In the project, for the purpose of executing the code, the anaconda prompt has been selected. The code is being written in python programming language.

References

[1] <https://www.python.org/downloads/>

[2] <https://www.anaconda.com/products/individual>