Configuration Manual

MSc Internship

Cyber Security

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MSc Project Submission Sheet

School of Computing

Student Name:	Kiran Hassan Shivashankar
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Programme:	MSc in Cybersecurity **Year:** 2019/2020
Module:	Academic Internship
Lecturer:	Prof. Ross Spelman
Submission Due Date:	17/08/2020
Project Title:	Accurate detection of malicious code in pdf files using Machine Learning Algorithms
Word Count:	320 **Page Count:** 2

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1 Introduction

This document emphasises the system requirements and the configuration details for executing Malicious code detection in pdf files using Machine Learning Algorithm. The entire code has been written in Python programming language.

2 System Requirements

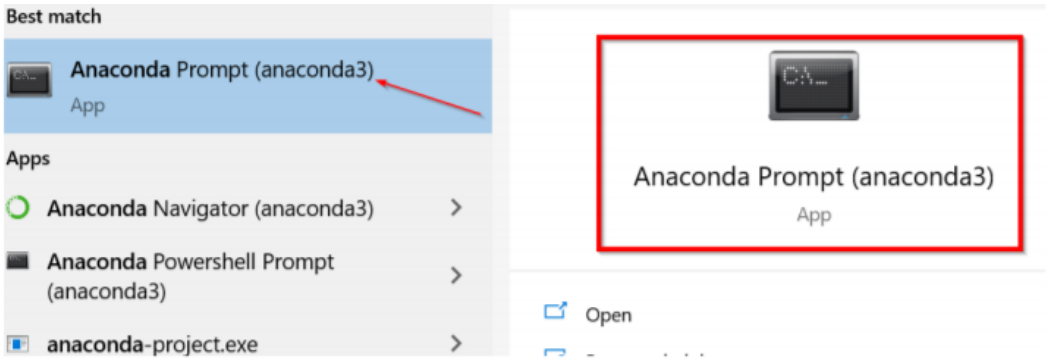
The user of this document requires to have basic python programming knowledge and python 2.7(which can be downloaded from python official website) installed on his system to execute this code. Anaconda Version 3.*.

2.1 Packages needed to install and run the code

- Pandas – Pandas is an open-source machine learning library used in python. It is a high performance easy to work with the library. Pandas is built on the Numpy library.
- Numpy – for array-based processing in python
- Matplotlib – is used for plotting the graphs
- sklearn - sklearn is a machine learning library build using Numpy and Matplotlib. It is used for data visualization and cross-validation. It is using in pre-processing steps on a dataset. Sklearn is a machine learning library that is composed of various regression, classification, and clustering-based algorithms.

2.2 How to install a package:

- To install a package first open Anaconda Prompt.



• Run the command – pip install <package name> E.g.: pip install pandas

3 Data Sources

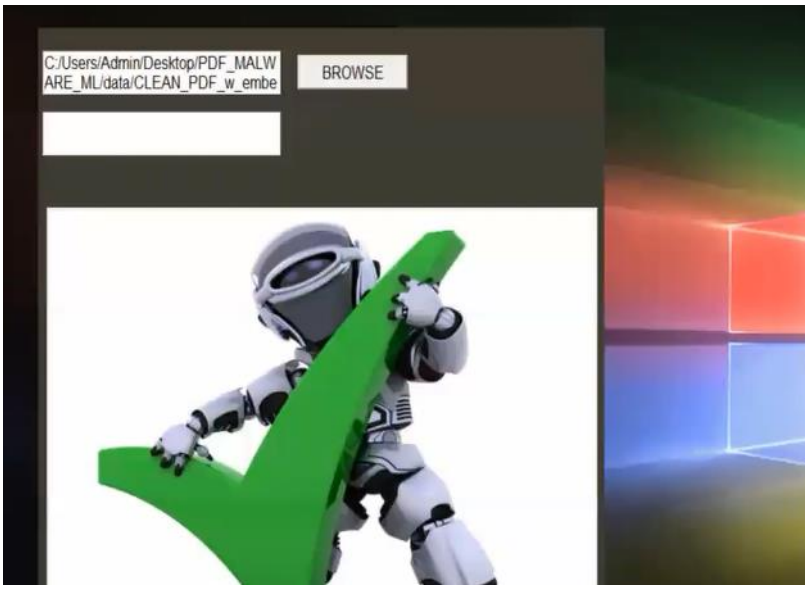
Data sets of 108 Benign pdf samples and 120 Malicious pdf documents are taken from contagio **malware dump**. You need to mail the author of the dataset for accessing the dataset to download that is password protected.

4 Code Execution

To execute the code, open Anaconda Navigator and create a virtual environment. Open Anaconda command prompt and activate the virtual environment created using **activate <environment_name>command**.

Once it is activated navigate to the folder where your code is stored using **cd** command. Next **run the python script create_dataset.py**. It will create the dataset in the data folder. Next **run the algo.py script**.

At the end you will get the window to check whether file you selected is malicious or not.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ARE_ML/data/CLEAN_PDF_w_embe
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