

Configuration Manual

MSc Research Project Cloud Computing

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Programme:	Cloud Computing
Year:	2024
Module:	MSc Research Project
Supervisor:	Prof. Sean Heeney
Submission Due Date:	25/04/2024
Project Title:	Configuration Manual
Word Count:	XXX
Page Count:	7

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Configuration Manual

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1 Introduction

This document is comprehensive guide to configure and customize various aspects of our system. This manual will provide the necessary information to implement the system to your specific needs.

2 Purpose

The purpose of this manual is to provide clear and detailed instructions on how to configure and manage different components of our system.

3 Configuration requirements

A technical document that acts as a manual for developing software is mentioned in this section.

3.1 Hardware used for implementation

The following hardware was used for the experiment.:

- Processor: AMD ryzen 5 5600H with Radeon Graphics 3.30 GHz
- RAM: 8gb
- System type: 64-bit operating system, x64-based processor

3.2 Minimum hardware requirements:

- Operating System:
 - 1. Windows 10 or 11
 - 2. Ram: 8gb
 - 3. Mac OS X 10.11 or higher, 64-bit
 - 4. Linux: RHEL 6/7, 64-bit

3.3 Software Requirements

- Google Colaboratory: cloud-based jupyter notebook, python version 3.9.
 - Email: Gmail account in order to use the drive.
 - Browser: Any.
 - Other Software: notepad, word.

4 Project recreation

In this section, instructions are given in steps to execute the project.

4.1 Environment setup

- Step 1: Launch the Google Collaboratory. Link: https://research.google.com/ colaboratory/Radovanovic (2023)
- Step 2: Navigate to the file area and launch a new notebook.

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Figure 1: Noteboook creation

• Step 3: Navigate to "upload," then choose the file to upload.

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~	~	Importing Libraries
	[]	#importing all libraries
		import sklearn
		import numpy as np
		import seaborn as sns
		import tensorflow as tf
		import plotly.express as px
		import plotly.offline as py
		from sklearn import metrics
		import mathlotlib.nynlot as nlt
		import plotly.graph_objects as go
		from sklearn.preprocessing import MinMaxScaler
		<pre>from sklearn.model_selection import train_test_split</pre>
		from sklearn.ensemble import ExtraTreesRegressor, AdaBoostRegressor, Stac

Figure 2: File upload

• Step 4: Import the dataset file via Drive.

4.2 Packages and libraries

After successfully uploading the dataset, import the libraries mentioned below.

- Plotly
- Matplotlib
- Numpy
- tensorflow
- Seaborn
- Sci-kit learn
- Pandas

5 Phases

To execute the methodology of this research, follow the below steps:

To run all steps simultaneously, the above button can be clicked as shown in Figure 5.

Running every step one by one is recommended, as shown in Figure 6.

After running the first cell, the permission window will pop up to access the dataset placed on the drive. (in this case, I am using my Gmail account.) as shown in Figure 8

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	1 2017-01-01 00:05:00 700473.840324 2.212393e+06 1.211322e+06

Figure 3: Dataset import

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Figure 4: Dataset folder

ONCE the setup is done as mentioned above, run every cell one by one to get the below results

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Figure 5: Run all cells at once



Figure 6: Run one cell at a time



Figure 7: Goodle drive access

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	<pre>from sklearn.model_selection import train_test_split from sklearn.ensemble import ExtraTreesRegressor, AdaBoostRegressor, StackingRegressor import warnings warnings.filterwarnings('ignore')</pre>	
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Figure 8: library import

6 Results

1. Support vector regressor model



Figure 9: SVR result

2. Extra tree regressor



Figure 10: Extra tree result

3. AdaBoost Regressor



Figure 11: ADA boost regressor result

4. Stacking tree regressor



Figure 12: Stacking tree result

References

Radovanovic, I. (2023). Google colab - a step-by-step guide - algotrading101 blog. URL: https://algotrading101.com/learn/google-colab-guide/