

Configuration Manual

MSc Research Project Programme Name

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National College of Ireland Project Submission Sheet School of Computing



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Date:	9th September 2024

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Configuration Manual

Manav Koli x23144483

1 System Configuration

A Manav Koli manavkoli105@gmail.com	System > About	
Find a setting Q	LAPTOP-5F51UVG4 IdeaPad Gaming 3 16iAH7	Rename this PC
Home	① Device specifications	Сору
Bluetooth & devices Network & internet Personalization Apps Accounts Time & hereing	Device name LAPTOP-5F51UVG4 Processor 12th Gen Intel(R) Core(TM) (7-12700H 2.30 GHz Installed RAM 16.0 G8 (15.7 G8 usable) Device ID 15143806-14AE-4510-878C-5C6AEFC24479 Product ID 0342-42620-03634-AAOEM System type 64-bit operating system, x64-based processor Pen and touch No pen or touch input is available for this display Related links Domain or workgroup System protection	
Gaming	Windows specifications	Сору
Accessibility Privacy & security Windows Update	Edition Windows 11 Home Single Language Version 23H2 Installed on 17-02-2024 OS build 22631 3800 Serial number MP28R6BN Experience Windows Feature Experience Pack 1000.22700.1020.0 Microsoft Serivers Agreement Microsoft Software License Terms	
	③ Support	Сору
	Manufacturer Lenovo	

Figure 1: System Configuration

This entire project built upon a system equipped with a 2.30 GHz 12th Gen Intel Core i7-12700H processor and 16 GB of RAM.

2 Software Requirement

We used the following software for this research project:

- 1. Anaconda 2.4.3
- 2. Python 3.12.2
- 3. Jupyter Notebook

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	<u>.</u>	±	±	t	±	±	
Environments	DS	0	0	lab	Jupyter	0	
.earning	DataSpell	Anaconda Notebooks	CMD.exe Prompt	JupyterLab	Notebook	Powershell Prompt	
Community	DataSpell is an IDE for exploratory data analysis and prototyping machine learning models. It combines the interactivity of Jupyter notebooks with the intelligent Python and R coding assistance of PyCharm	Cloud-hosted notebook service from Anaconda. Launch a preconfigured environment with hundreds of packages and store project files with persistent cloud storage.	0.1.1 Run a cmd.exe terminal with your current environment from Navigator activated	3.6.3 An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture.	6:54 Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.	0.0.1 Run a Powershell terminal with your current environment from Navigator activated	
	in one user-friendly environment.	Launch	Launch	Launch	Launch	Launch	
	\$	\$	\$	\$	\$	\$	
	IP[y]:	*	×	E	Ŭ.	Cloud Infrastructure	
	Qt Console	Spyder	VS Code	Datalore	IBM Watson Studio Cloud	Oracle Data Science Service	
	5.42 PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more.	5.4.3 Scientific PYthon Development EnviRonment: Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features	1.91.1 Streamlined code editor with support for development operations like debugging, task running and version control.	Kick-start your data science projects in seconds in a pre-configured environment. Enjoy coding assistance for Python, SQL, and R in Jupyter notebooks and benefit from no-code automations. Use Datalore	IBM Watson Studio Cloud provides you the tools to analyze and visualize data, to cleanse and shape data, to create and train machine learning models. Prepare data and build models, using open source data	OCI Data Science offers a machine learning platform to build, train, manage, and deploy your machine learning models on the cloud with your favorite open-source tools	
	Launch	Launch	Launch	online for free.	science tools or visual modeling.	Launch	

Figure 2: System Configuration

3 Python Libraries

Following python libraries are used for this project

- 1. TensorFlow
- 2. Keras
- 3. numpy
- 4. matplotlib
- 5. seaborn
- 6. Scikit-learn
- 7. pandas
- 8. sklearn
- 9. LazyClassifier

4 Dataset

The dataset for this research project is consists of chest X-ray images obtained from Kaggle, a publicly accessible platform.

Dataset link: https://www.kaggle.com/datasets/tolgadincer/labeled-chest-xray-images

5 Steps to run code

Here are the detailed step by step instructions for installing Anaconda, setting up Python, and running a Jupyter Notebook.

5.0.1 Install Anaconda

Anaconda is a widely used Python distribution that comes with a variety of helpful packages and tools, including Jupyter Notebook.

- 1. Anaconda website: https://www.anaconda.com/products/individual
- 2. Download the installer that matches your operating system (Windows, macOS, or Linux).
- 3. While installing, be sure to select the option to 'Add Anaconda to my PATH environment variable' (recommended). Then, proceed to finish the installation.

5.0.2 Launch Jupyter Notebook

Create a New Notebook:

In the Jupyter Notebook, click "New" and select "Python 3".

Code Execution:

In the newly opened notebook, you can write Python code in the cells. To run the code in a cell simply press "Shift+Enter".

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Figure 3: System Configuration

Steps for Running Notebook File

1. Open Jupyter Notebook:

• Start by making sure your Jupyter Notebook is running. You can open it through the Anaconda Prompt, Terminal, or directly from Anaconda Navigator.

2. Navigate to the Notebook:

• After opening Jupyter Notebook in your web browser, open directory where your notebook file is stored.Project_code_chest-x-ray.ipynb.

3. Hit Run Button:

- At the top of the notebook interface, there's a toolbar with a variety of buttons you will check it.
- click on 'Run' button, which is shown by a triangle icon. (▷) on it. using this button currently selected cell code was run.

4. Select and Run cell:

• select the cell and click on the cell you want to run. The cell will be highlighted in different shade with a blue or green border.

5. Run the Cell:

- To run the code in the selected cell, click the 'Run' button in the toolbar (highlighted by the red box in your screenshot).
- Alternatively, you can press **Shift** + **Enter** on your keyboard to run the selected cell and automatically proceed to the next one.

6. Running Cells progress:

• Keep selecting and running cells as needed. To run all cells in order, you can also go to the top menu, click on 'Cell,' and choose 'Run All.'

7. View Output:

• The output of the code will display directly beneath the cell that was executed. Depending on the code, this could be text, plots, or other visual elements.