

Local Environment Setup & Source Code Management Guideline

1. Download & install Anaconda distribution

a. Link: <https://docs.anaconda.com/anaconda/install/>

b. Verify the installation : conda --version

```
(base) iroshanaberathne@Iroshans-MacBook-Pro ~ % conda --version
conda 4.8.3
(base) iroshanaberathne@Iroshans-MacBook-Pro ~ % █
```

c. Create virtual environment : conda create --name env_name

```
(base) iroshanaberathne@Iroshans-MacBook-Pro ~ % conda create --name ai_ml_env
Collecting package metadata (current_repodata.json): done
Solving environment: done

=> WARNING: A newer version of conda exists. <==
    current version: 4.8.3
    latest version: 25.1.1

Please update conda by running

$ conda update -n base -c defaults conda

## Package Plan ##

environment location: /opt/anaconda3/envs/ai_ml_env

Proceed ([y]/n)? y

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate ai_ml_env
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) iroshanaberathne@Iroshans-MacBook-Pro ~ %
```

d. List virtual environments : conda env list

```
((base) iroshanaberathne@Iroshans-MacBook-Pro ~ % conda env list
/opt/anaconda3/lib/python3.8/multiprocessing/resource_tracker.py:216: UserWarning:
  warnings.warn('resource_tracker: There appear to be %d ' %
# conda environments:
#
base          * /opt/anaconda3
ai_ml_env      /opt/anaconda3/envs/ai_ml_env
new_env        /opt/anaconda3/envs/new_env
tf            /opt/anaconda3/envs/tf

(base) iroshanaberathne@Iroshans-MacBook-Pro ~ %
```

e. Activate the virtual environment : conda activate env_name

```
((base) iroshanaberathne@Iroshans-MacBook-Pro ~ % conda activate ai_ml_env
(ai_ml_env) iroshanaberathne@Iroshans-MacBook-Pro ~ %
```

f. Deactivate the virtual environment : conda deactivate

```
(ai_ml_env) iroshanaberathne@Iroshans-MacBook-Pro ~ % conda deactivate
(base) iroshanaberathne@Iroshans-MacBook-Pro ~ %
```

2. Enable Visual Studio Code Editor

a. Install Anaconda navigator if not installed

```
+ Name           Version    Build Channel
(ai_ml_env) iroshanaberathne@Iroshans-MacBook-Pro ~ % conda install anaconda-navigator

Collecting package metadata (current_repodata.json): done
Solving environment: done

==> WARNING: A newer version of conda exists. <==
  current version: 4.8.3
  latest version: 25.1.1

Please update conda by running

$ conda update -n base -c defaults conda


## Package Plan ##

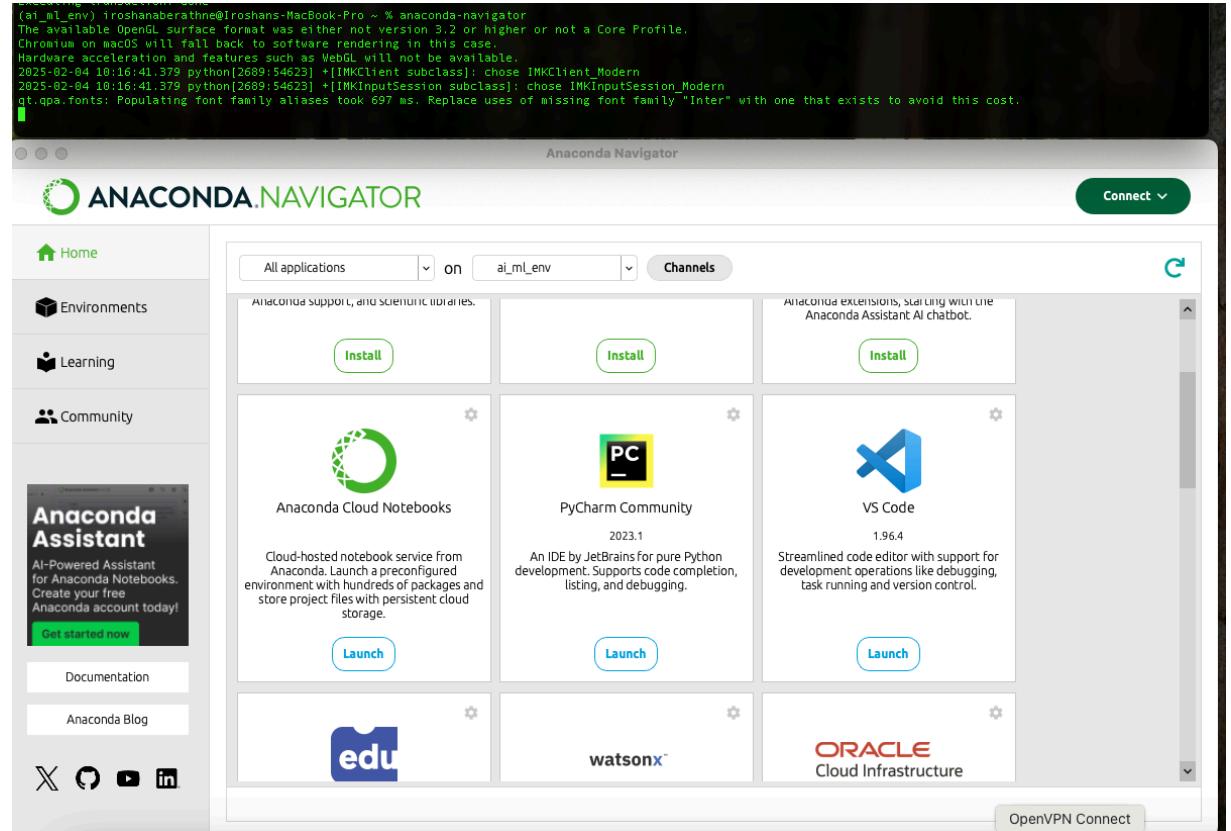
environment location: /opt/anaconda3/envs/ai_ml_env

added / updated specs:
- anaconda-navigator

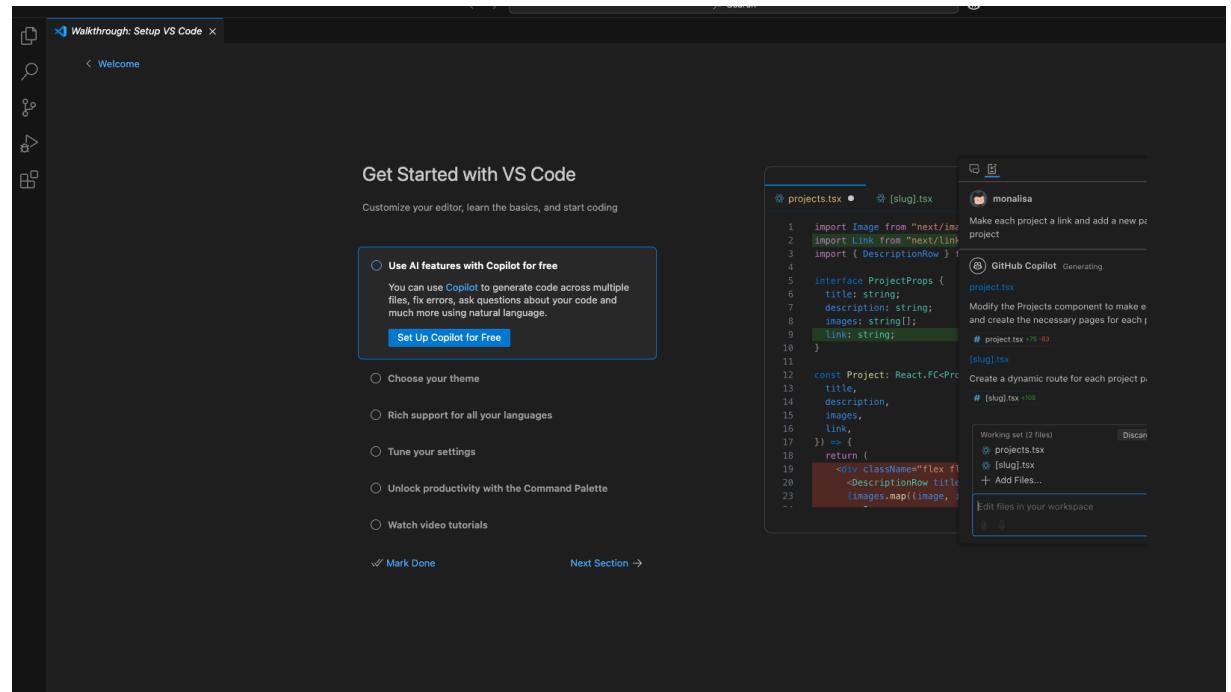
The following packages will be downloaded:

  package          | build
  -----|-----
  anaconda-anon-usage-0.5.0 | py312hfb7c958_100      32 KB
  anaconda-cli-base-0.4.1   | py312hecd8cb5_1       31 KB
  anaconda-client-1.13.0    | py312hecd8cb5_0       835 KB
```

b. Run Anaconda navigator : anaconda-navigator



c. Launch Visual Studio code editor



3. Create GitHub repository

- Signup for github for new account with your lincoln email:

<https://github.com/>

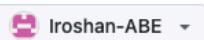
- Create a repository (name) with your student registration number

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#).

Required fields are marked with an asterisk (*).

Owner * Repository name *



Iroshan-ABE / COMP622

COMP622 is available.

Great repository names are short and memorable. Need inspiration? How about [potential-octo-spoon](#) ?

Description (optional)

Special Topic AI & ML

Public

Anyone on the internet can see this repository. You choose who can commit.

Private

You choose who can see and commit to this repository.

Initialize this repository with:

Add a README file

This is where you can write a long description for your project. [Learn more about READMEs](#).

Add .gitignore

.gitignore template: None ▾

Choose which files not to track from a list of templates. [Learn more about ignoring files](#).

Choose a license

License: None ▾

A license tells others what they can and can't do with your code. [Learn more about licenses](#).

This will set main as the default branch. Change the default name in your [settings](#).

You are creating a private repository in your personal account.

Create repository

Selecting a Dataset for your Study

Log in to [Kaggle](#) and select a dataset under the [Datasets](#) tab in your account. Meanwhile you need to justify why you select the dataset so that the examiner evaluates the dataset based on the justification and let you know whether you can proceed with the selected dataset.

Weekly Homework Plan

1. Week 01: Local environment setup, remote repository creation.
2. Week 02: Selecting and submitting the justification for the dataset to proceed.
3. Week 03: Perform data preprocessing and push the code to remote repository and create a PR (pull requesting) to tutor to review the code.
4. Week 04: Perform feature selection/ extraction and push the code to remote repository and create a PR (pull requesting) to tutor to review the code.

5. Week 05: Perform model selection (supervised/ unsupervised) based on your problem and push the code to remote repository and create a PR (pull requesting) to tutor to review the code.
6. Week 06 : Perform parameter optimisation based on the selected model/s and push the code to remote repository and create a PR (pull requesting) to tutor to review the code.
7. Week 07: Practice XAI algorithm based on the lecture, push the code to a remote repository and create a PR (pull requesting) tutor to review the code.
8. Week 08: Practice Time Series algorithm based on the lecture, push the code to a remote repository and create a PR (pull requesting) to tutor to review the code.
9. Week 09: Practice Image Data algorithms based on the lecture, push the code to a remote repository and create a PR (pull requesting) to tutor to review the code.
10. Week 10/11 & 12 : Continue work on the project and evaluate the code accordingly.