Lab 1: Introduction to Machine Learning and Environment Setup

1. Introduction

In this lab, we introduce the basics of Machine Learning (ML) and demonstrate how to set up a dedicated jupyter environment for ML experiments. We'll use the built-in `venv` module to create a virtual environment named `myenv `, where we will install essential ML libraries.

2. Objectives

- Understand what Machine Learning is.
- Create an isolated jupyter environment.
- Install foundational ML libraries such as numpy, pandas, matplotlib, and scikit-learn.
- Verify the environment setup with package installation.

3. Environment Setup Steps

1. Step 1: Open the Anaconda Prompt

Use the Start Menu to search and open 'anaconda Prompt'

2. Step 2: Create a Virtual Environment

> *Run the following command to create a virtual environment named myenv*
> *python -m venv myenv*

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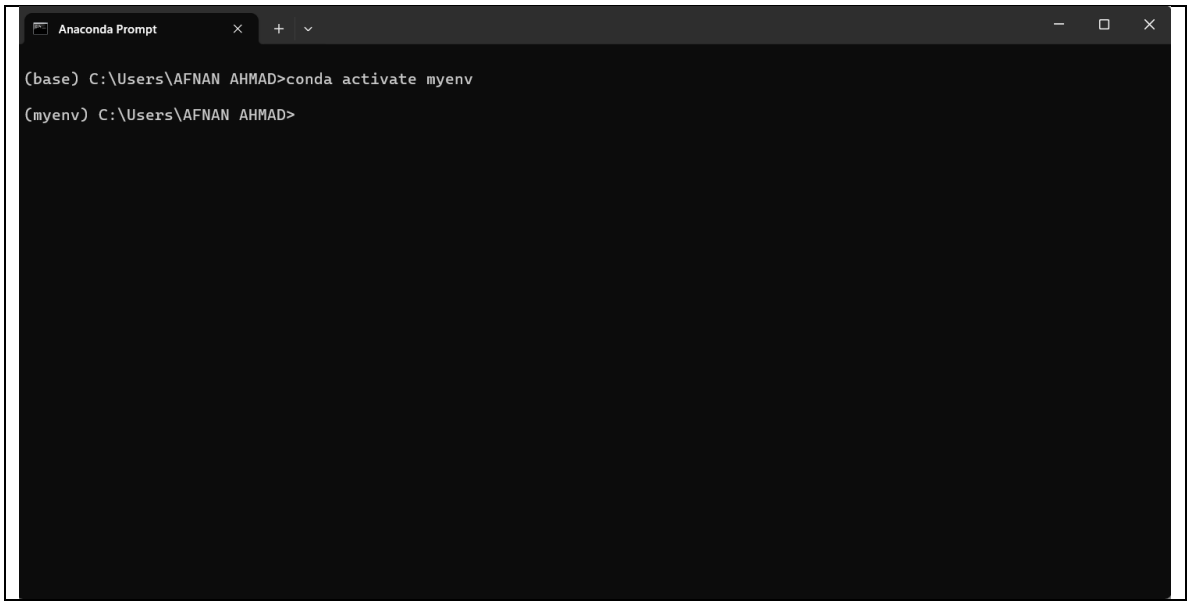
3. Step 3: Activate the Environment

> *Run the command below to activate the environment:*
> *conda activate myenv*

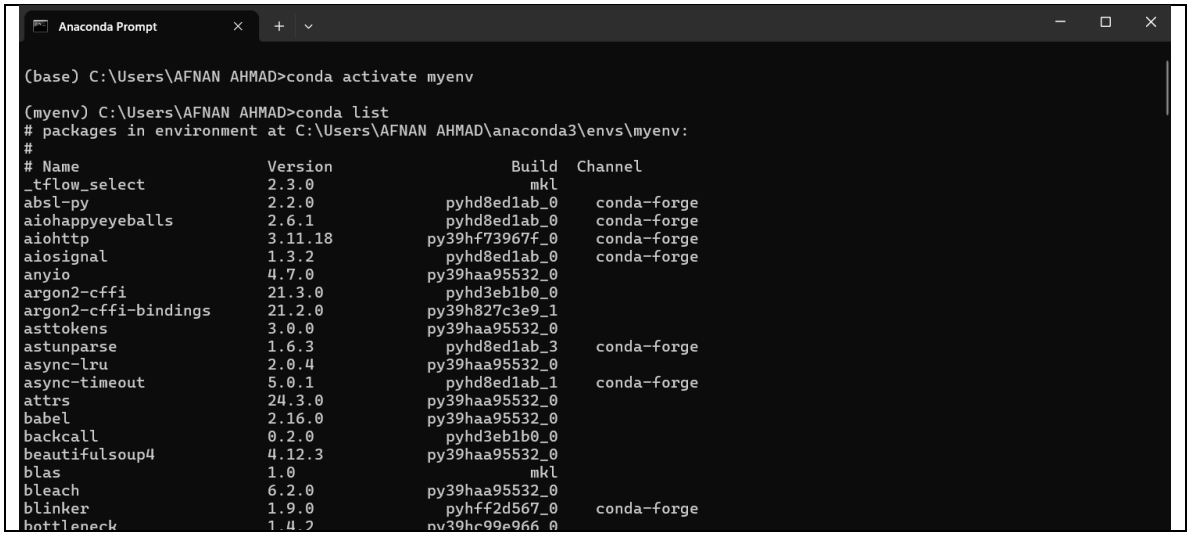
Screenshot: Creating and Activating the Environment



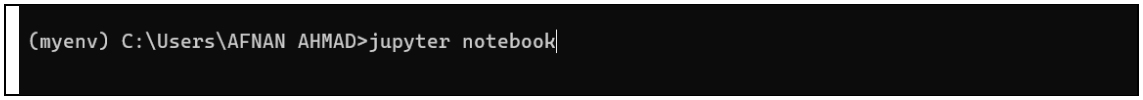
4. Step 4: Install Required Machine Learning Libraries

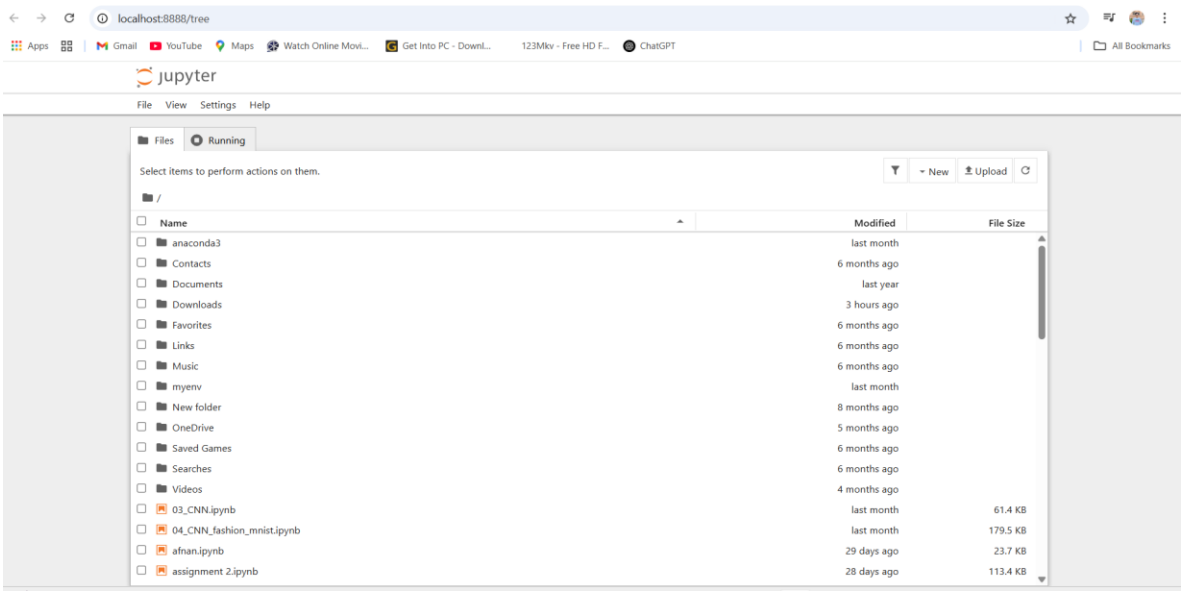
   Use pip to install ML libraries:
   `pip install numpy pandas matplotlib scikit-learn`

Screenshot: Installing Libraries



5. Step5: Activate jupyter notebook.
   Write in anocanda prompt “jupyter notebook”





4. Conclusion

In this lab, you successfully created a jupyter environment and installed key Machine Learning libraries. This setup ensures a clean, manageable, and reproducible workspace for all future ML projects.