### **Environment Setup**

### To successfully implement the Customer Lifetime Value (CLV) prediction model, I have set up the development environment using Python 3.13.0 and installed all necessary libraries for data preprocessing, analysis, machine learning, and deployment. The setup includes both Python (standalone) and Anaconda as options, allowing flexibility based on user preference.

### **1. Installed Python 3.13.0**

I installed Python 3.13.0 from the official Python website:  
[Python 3.13.0 Download](https://www.python.org/downloads/)

To verify the installation, I ran the following command in the terminal:

python --version

### **2. Installed Anaconda**

### For those preferring Jupyter Notebook for analysis, I also installed Anaconda from: [Anaconda Download](https://www.anaconda.com/download)

After installation, I verified it using:

conda --version

conda create --name churn\_env python=3.13.0

conda activate churn\_env

### **3. Installed Required Libraries**

To set up the required libraries, I installed the following:

#### **List of Installed Libraries:**

1. **Data Manipulation:**
   * numpy
   * pandas
2. **Data Visualization:**
   * matplotlib
   * seaborn
3. **Machine Learning Models:**
   * scikit-learn
   * xgboost
4. **Model Deployment:**
   * Flask
   * Docker
   * Postman

**Installed all libraries using:**

pip install numpy pandas matplotlib seaborn scikit-learn xgboost flask

**Alternatively, I created a requirements.txt file with all dependencies:**

**numpy**

**pandas**

**matplotlib**

**seaborn**

**scikit-learn**

**xgboost**

**flask**