# **Analysis Of Restaurant Ratings and Reviews Using Machine Learning - Software Requirements**

## **Overview**

This document provides a detailed list of required software and their installation procedures for the Analysis Of Restaurant Ratings and Reviews Using Machine Learning project. This guide ensures that all necessary dependencies and tools are properly set up to execute the project successfully.

## **Required Software**

The following software and dependencies are required for this project:

### **1. Python (Programming Language)**

* **Version:** 3.7 or later
* **Download:** [Python Official Website](https://www.python.org/downloads/)
* **Installation Steps:**
  + Download the installer from the official website.
  + Run the installer and check **"Add Python to PATH"** before installing.

Verify installation by running:  
 python --version

### **2. Jupyter Notebook (Development Environment)**

**Installation Steps:** pip install notebook

**Run Jupyter Notebook:** jupyter notebook

### **3. Required Python Libraries**

To install all necessary libraries, run:

pip install -r requirements.txt

If the requirements.txt file is not available, install the libraries manually:

pip install numpy pandas matplotlib seaborn scikit-learn nltk textblob

### **4. NLTK Data Download**

For **Natural Language Toolkit (NLTK)**, additional data needs to be downloaded:

python -m nltk.downloader all

### **5. Virtual Environment (Optional but Recommended)**

To isolate dependencies, create a virtual environment:

python -m venv env

source env/bin/activate # For Linux/macOS

env\Scripts\activate # For Windows

### **6. Git (Version Control)**

* **Download:** [Git Official Website](https://git-scm.com/downloads)
* **Installation Steps:**
  + Download and run the installer.

Verify installation using:  
 git --version

## **Software Folder Organization**

All required software should be placed in a **Softwares** folder:

Softwares/

│── PythonInstaller/ (Contains Python executable files)

│── JupyterNotebook/ (Offline installer, if needed)

│── Dependencies/ (Downloaded .whl files for offline installation)

│── Git/ (Git installation files)

│── README.md (Installation steps and instructions)

## **Deployment & Execution Procedure**

To deploy and execute the project:

1. **Install Python** and verify it using python --version.
2. **Install Jupyter Notebook** using pip install notebook.
3. **Set up a virtual environment** (optional but recommended).
4. **Install all required libraries** via pip install -r requirements.txt.
5. **Download required NLTK data** if needed.
6. **Run Jupyter Notebook** and execute the analysis.

By following these steps, the project environment will be fully set up and ready to run.

## **Additional Notes**

* Ensure that all software is properly placed in the **Softwares** folder.
* Offline installation files should be included for systems without internet access.
* A step-by-step **installation guide** should be included in install.md or install.txt.