Masters Decision Support System - Documentation

# Project Overview

This Streamlit-based project predicts whether a student should pursue a Master's degree   
based on their GATE score and current salary using a machine learning model.  
It features a clean user interface with data visualization, prediction form, and dataset preview.

# Python Libraries Used

* streamlit
* pandas
* matplotlib
* scikit-learn
* streamlit-option-menu

# Installation Instructions

* Install Python (preferably version 3.8 or later) from https://python.org
* Open terminal and install required packages:

pip install streamlit pandas matplotlib scikit-learn streamlit-option-menu

# File and Folder Structure

* app.py → Main Streamlit application
* dataset.csv → Combined dataset used for training and predictions

# How to Run the Project

* Open terminal or command prompt
* Navigate to the folder where app.py is located
* Run the following command:

streamlit run app.py

* The app will open in your browser with a sidebar menu

# Features in the Application

* Home: Welcome screen and navigation
* About Model: Describes model type and purpose
* Dataset: Shows the contents of dataset.csv
* Prediction Model: Predicts if a user should pursue a Master's
* Graph: Visualizes salary, GATE score, and decision distribution

# Machine Learning Model Details

* Model Type: Random Forest Classifier
* Features Used: GATE Score (Categorical), Salary (Numerical)
* Target Column: Should\_Do\_Masters
* Data Preprocessing: Label Encoding of categorical columns
* Train-Test Split: 80% training, 20% testing

# Additional Notes

* The app now runs without requiring user login or authentication
* You can extend the model by adding more features (e.g., branch, placement status)
* Consider deploying this project using Streamlit Cloud for free hosting