***Read me***

**Requirement**

To run the code for building the loan approval system, you'll need to follow these steps:

1. \*\*Install Required Libraries:\*\* Ensure you have Python installed on your system. Then, install the required libraries mentioned in the code, such as pandas, NumPy, matplotlib, seaborn, and scikit-learn. You can install them using pip:

```

pip install pandas numpy matplotlib seaborn scikit-learn

```

2. \*\*Prepare Dataset:\*\* Make sure you have the loan dataset (e.g., loan.xlsx) available in the same directory as your Python script or specify the correct path to the dataset in the code.

3. \*\*Execute the Code:\*\* Copy and paste the provided code into a Python script (e.g., loan\_approval\_system.py) and execute it using a Python interpreter. You can run the script from the command line or through an integrated development environment (IDE) like Jupyter Notebook, PyCharm, or VSCode.

4. \*\*Review Output:\*\* After running the code, review the output to check the accuracy of the trained models, evaluate their performance metrics, and visualize the results.

5. \*\*Optional: Hyperparameter Tuning:\*\* If you want to further optimize the model performance, you can perform hyperparameter tuning by adjusting the model's parameters and retraining the models.

6. \*\*Deployment (Optional):\*\* Once satisfied with the model's performance, you can deploy it as a service or integrate it into your application for real-world use.

By following these steps, you can successfully run the code and build a loan approval system based on the provided dataset and machine learning algorithms.

**# Loan Approval System**

## Overview

The Loan Approval System is a Python-based application designed to automate the process of loan approval for financial institutions. It leverages machine learning algorithms to analyze applicant data and predict whether a loan application should be approved or denied.

## Features

- Automated loan approval process

- Predictive modeling using machine learning

- Visualization of applicant data and loan status

- Integration with external datasets

- Easy-to-use command-line interface

## Usage

1. \*\*Install Dependencies:\*\*

Make sure you have Python installed on your system along with the necessary libraries. You can install the required dependencies using pip:

2. \*\*Prepare Data:\*\*

Ensure that your loan dataset is available in the required format (e.g., loan.xlsx). If not, modify the code to load your dataset accordingly.

3. \*\*Run the Application:\*\*

Execute the loan\_approval\_system.py script to run the application:

4. \*\*Follow On-Screen Instructions:\*\*

The application will guide you through the loan approval process. Follow the on-screen instructions to input applicant data and view loan approval status.

5. \*\*Interpret Results:\*\*

After the analysis is complete, the application will display the loan approval decision along with relevant statistics and visualizations.

## Contact

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