**Loan Approval Prediction**

This project aims to predict whether a loan application will be approved based on various applicant features using machine learning techniques.

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**Overview**

The **Loan Approval Prediction** project leverages machine learning algorithms to analyze loan applications and predict their approval status. The model is trained on a dataset containing various features related to applicants, such as income, credit history, and loan amount.

**Technologies Used**

* **Python**: Primary programming language for data analysis and modeling.
* **Jupyter Notebook**: For developing and running the project code.
* **Pandas**: For data manipulation and analysis.
* **NumPy**: For numerical operations.
* **Matplotlib** and **Seaborn**: For data visualization.
* **Scikit-learn**: For implementing machine learning algorithms.

**Dataset**

The dataset used for this project contains historical loan application data, including features such as:

* Applicant's income
* Credit score
* Loan amount
* Employment status
* Previous loan history

**Getting Started**

1. **Clone the repository:**

bash

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git clone https://github.com/Pradeep1729/Loan-Approval-Prediction.git

1. **Navigate to the project directory:**

bash

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cd Loan-Approval-Prediction

1. **Install the required packages:**

It’s recommended to use a virtual environment. You can create one and install the dependencies using:

bash

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pip install -r requirements.txt

1. **Run the Jupyter Notebook:**

bash

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jupyter notebook

**Usage**

Open the Loan Approval Prediction.ipynb notebook to explore the data, run the analysis, and see the prediction results. The notebook includes sections for data preprocessing, exploratory data analysis (EDA), model training, and evaluation.

**Model Evaluation**

The model’s performance is evaluated using metrics such as accuracy, precision, recall, and F1 score. These metrics help determine how well the model can predict loan approvals based on the input features.

**Contributing**

Contributions to improve the project are welcome! If you have suggestions for enhancements or bug fixes, feel free to submit a pull request.

**License**

This project is licensed under the MIT License - see the LICENSE file for details.