# README for Delivery Time Prediction Notebook

# Delivery Time Prediction  
  
This repository contains a Jupyter Notebook titled \*\*"Deliverytimeprediction.ipynb"\*\*, which aims to predict delivery times using machine learning techniques. The notebook focuses on data preprocessing, model building, evaluation, and insights generation.  
  
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## Features of the Notebook  
  
- \*\*Data Exploration\*\*:  
 - Overview of the dataset.  
 - Descriptive statistics and data distribution.  
  
- \*\*Data Preprocessing\*\*:  
 - Handling missing values and outliers.  
 - Encoding categorical variables.  
 - Scaling features for model readiness.  
  
- \*\*Model Development\*\*:  
 - Implementing regression models to predict delivery time.  
 - Tuning hyperparameters for optimal model performance.  
  
- \*\*Evaluation Metrics\*\*:  
 - Using metrics such as:  
 - Mean Absolute Error (MAE)  
 - Root Mean Squared Error (RMSE)  
 - R-squared score  
  
- \*\*Visualization\*\*:  
 - Visualizing feature importance and model predictions.  
  
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## Getting Started  
  
### Prerequisites  
Ensure you have the following installed:  
- Python 3.8 or above  
- Jupyter Notebook or Jupyter Lab  
- Required Python libraries:  
 - `pandas`  
 - `numpy`  
 - `matplotlib`  
 - `seaborn`  
 - `sklearn`  
  
### How to Run  
1. Clone the repository:  
 ```bash  
 git clone <repository-link>  
 cd <repository-folder>  
 ```  
2. Open the notebook:  
 ```bash  
 jupyter notebook "Deliverytimeprediction.ipynb"  
 ```  
3. Run the cells sequentially to explore and implement the prediction model.  
  
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## Results  
  
- Developed a predictive model for delivery time estimation.  
- Identified factors influencing delivery delays.  
- Gained actionable insights to improve delivery efficiency.  
  
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## Acknowledgements  
  
- Created by \*\*Eshan Pandey\*\* as part of a machine learning project.  
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## License  
  
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