Cell Hotel

It looks like you uploaded a file for your project. I'll create a README file based on what you've shared about your work so far. I'll also try to align it with the content in your notebook, if relevant.
Here's a draft README for your GitHub repository:

Hotel Booking Cancellation Prediction Dashboard

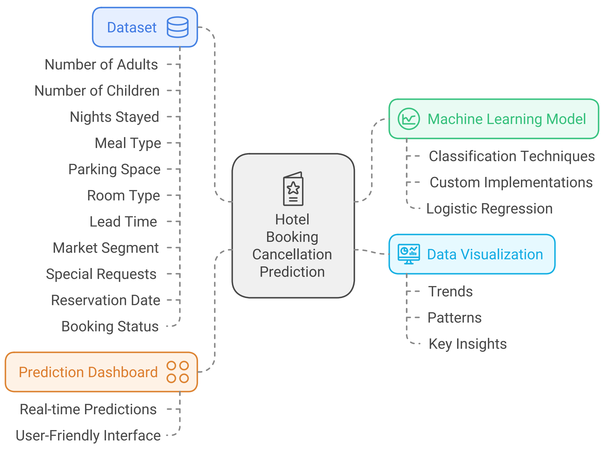
This project aims to build a dashboard that predicts hotel booking cancellations using machine learning. The dashboard is implemented using **Dash** and integrated with **Flask** to serve the model predictions. The machine learning models predict whether a booking will be canceled based on a variety of features.

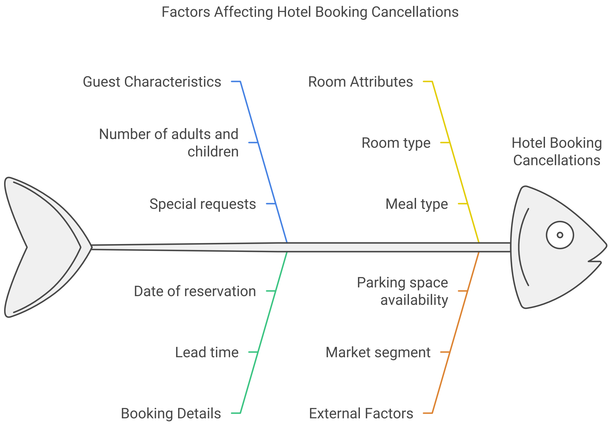
Project Structure

```
/hotel-booking-dashboard
|
├── Cell_Hotel_Task_2.ipynb       # Jupyter notebook with model implementation and analysis
├── app.py                        # Flask application to serve the dashboard
├── assets/                       # CSS/JS assets for Dash
├── data/                         # Contains dataset(s) used in this project
├── models/                       # Trained models
├── static/                       # Static files (if any)
├── templates/                    # HTML templates (if any)
└── README.md                     # Project overview (this file)
```

Features

- **Dataset**: The dataset includes various attributes related to hotel bookings, such as:
  - Number of adults, children, and nights stayed (weekends and weekdays)
  - Type of meal selected
  - Parking space availability
  - Room type
  - Lead time
  - Market segment
  - Number of special requests
  - Date of reservation
  - Booking status (canceled or not)
- **Machine Learning Model**: The model is trained to predict if a booking will be canceled using classification techniques. Custom implementations and logistic regression may be used.
- **Data Visualization**: Key insights from the dataset are visualized, providing a clearer understanding of trends affecting booking cancellations.
- **Prediction Dashboard**: A user-friendly interface is built using **Dash** to visualize the predictions of the model in real time.





Requirements

- Python 3.x
- Flask
- Dash
- Pandas
- Scikit-learn (optional, if not using custom implementations)
- Jupyter Notebook

To install the required packages, run:

```
pip install -r requirements.txt
```

Usage

1. **Run the Flask Application**: You can start the Flask server by running the following command:

```
python app.py
```

2. **Access the Dashboard**: Once the server is running, you can access the dashboard at **http://127.0.0.1:5000/**.
3. **Dataset**: Place your dataset in the **data/** directory.
4. **Model Training**: You can view and run the notebook **Cell_Hotel_Task_2.ipynb** for data analysis, feature engineering, and model training.

Dataset

This project uses a hotel booking dataset that includes multiple features related to the booking process. The dataset can be found in the **/data** directory.

Future Improvements

- **Model Optimization**: Further tuning of the model to improve accuracy and performance.
- **Feature Engineering**: Addition of new features to improve prediction.
- **Deployment**: Deployment to a cloud service for real-time use.

Feel free to update the content to match your specific implementation!