**PROJECT TITLE:**

* **Project Report on Daily Life Using AI and ML**

**1. Introduction**

**1.1 Background**

* In recent years, artificial intelligence (AI) and machine learning (ML) have become integral to various aspects of daily life, transforming how we interact with technology and each other.
* As AI and ML continue to evolve, their applications expand into various domains, including healthcare, education, transportation, and entertainment.

**1.2 Objective**

* The primary objective of this project report is to explore and analyze the impact of artificial intelligence (AI) and machine learning (ML) on daily life. Specifically, the objectives include

**1.3 Scope**

* The scope of this project report encompasses a comprehensive examination of the integration of artificial intelligence (AI) and machine learning (ML) in various facets of daily life.

**2. Literature Review**

**2.1 Existing Approaches**

* The integration of artificial intelligence (AI) and machine learning (ML) into daily life has been studied from various perspectives, leading to the development of numerous approaches that enhance user experiences and optimize processes
* Platforms like Amazon Alexa and Google Assistant employ natural language processing (NLP) to understand and respond to user commands, enabling seamless interaction with various smart devices.

**2.2 Data Sources and Features**

* The effectiveness of AI and machine learning (ML) applications in daily life heavily relies on the availability and quality of data.

**3. Data Collection and Preprocessing**

**3.1 Data Sources**

* Sources of data, such as real estate listings, government databases, and historical transaction records.

**3.2 Data Preprocessing**

* Cleaning and preparing the data (handling missing values, data normalization).
* Feature engineering, including the creation of new features like price per square foot, proximity to amenities, etc.

**3.3 Exploratory Data Analysis (EDA)**

* Visualization of data to understand distributions, correlations, and outliers.
* Analysis of feature importance.

**4. Model Development**

**4.1 Model Selection**

* Discussion of various ML algorithms suitable for regression tasks (Linear Regression, Decision Trees, Random Forests, Gradient Boosting Machines, and Neural Networks).
* Justification for the chosen model(s).

**4.2 Model Training and Evaluation**

* Splitting data into training and testing sets.
* Training the model(s) and tuning hyper parameters.
* Evaluation metrics used (Mean Absolute Error, Mean Squared Error, Root Mean Squared Error, R² score).

**5. Implementation**

**5.1 Tools and Libraries**

* Software and tools used (Python, scikit-learn, XGBoost, TensorFlow/Keras, Pandas, etc.).

**5.2 Code Implementation**

* Key code snippets and explanations.
* Workflow from data loading and preprocessing to model training and evaluation.

**6. Results and Discussion**

**6.1 Model Performance**

* Presentation of the model's performance on test data.
* Comparison with baseline models or other methods.

**6.2 Analysis of Results**

* Interpretation of model predictions.
* Discussion on the significance of key features and any patterns observed.

**6.3 Limitations**

* Discussion of potential limitations, such as data quality, model generalizability, and market dynamics.

**7. Conclusion and Future Work**

**7.1 Conclusion**

* Summary of the findings and effectiveness of the model in predicting house prices.

**7.2 Future Work**

* Suggestions for improving the model, incorporating additional data (e.g., economic indicators), or exploring alternative machine learning techniques.