**Week 9**

**Implementation of Third Module**

In the final phase, the machine learning models and recommendation logic are wrapped inside a Streamlit application. Streamlit is a lightweight open-source Python library designed for creating data-driven web apps with minimal code. It allows rapid development of interactive dashboards and ML-powered tools.The user interface is designed to support real-time interaction. Widgets like selectbox, radio, and number\_input allow users to select cities, choose preference types (Nearby Location or Top Facilities), and input property features for price prediction. The backend models and functions are dynamically triggered based on user input. Results are displayed instantly using Streamlit’s output components like write, table, and markdown, enabling a smooth and responsive experience.This architecture ensures a clean separation of concerns—data handling, model logic, and UI interaction—making the system scalable and easy to maintain. It also lays the groundwork for future enhancements such as LLM integration (e.g., Google Gemini) and map-based recommendations. In the Real Estate Explorer, Streamlit plays a crucial role in delivering a seamless and user-friendly experience. The application interface allows users to interact. with the system through clearly structured input elements such as dropdown menus, text boxes, sliders, and action buttons. These components are used to collect necessary input parameters from the user, such as location names, budget constraints, property size, or the number of bedrooms. Once the input is provided, the system processes it in real time and displays outputs like price predictions, recommended areas, and visual charts to enhance understanding. The application offers two core functionalities that users can select from. In the location-based price prediction mode, users can enter the name of a location, and the system returns an estimated property price for that area, based on historical data and the trained machine learning model. This feature is useful for individuals who have a specific area in mind and want to understand its market trends or affordability. On the other hand, the budget-based location exploration mode enables users to input a financial limit, and the system responds with a list of locations where properties are available within that price range. This is particularly valuable for users who are flexible about location but constrained by budget.