

PROJECTS

AI & Machine Learning Projects

Project 1. RAG Chatbot (Personal AI Assistant)

- **Architecture:** Retrieval-Augmented Generation pipeline
- **Components:**
 - LangChain Expression Language (LCEL)
 - ChromaDB vector store
 - OpenAI LLM for generation
 - Embedding-based document chunk retrieval
- **Capabilities:**
 - Multi-turn conversational memory
 - Source-aware responses
 - Document-grounded question answering
- **Use Case:** Personal information assistant for verified self-knowledge retrieval.

Project 2. Student Performance Prediction

- **Task:** Binary/multiclass classification
- **Dataset:** Demographic + academic performance data
- **Pipeline:**
 - Data preprocessing (Pandas)
 - Feature engineering
 - Model training using Scikit-learn classifiers
 - Evaluation using accuracy, precision, recall
- **Outcome:** Early identification of at-risk students.

Project 3. Car Price Prediction System

- **Task:** Regression
- **Dataset:** Historical car sales data
- **Pipeline:**
 - Data cleaning and normalization
 - Model training using Scikit-learn regression algorithms
 - API deployment with FastAPI
- **Outcome:** Predictive pricing engine for car valuation.

Web Development Projects

Project 4. Beautiful-Beaches Website

- **Type:** Static web application
- **Features:**
 - Responsive UI
 - Image-based beach catalog
 - Bootstrap-powered layout
- **Stack:** JavaScript, HTML, CSS, Bootstrap

Project 5. Guess-My-Number Game

- **Type:** Browser-based interactive game
- **Logic:**
 - Random number generation
 - Turn-based scoring
 - Win condition at cumulative score of 100
- **Stack:** JavaScript, HTML, CSS

Project 6. custom_coffee

- **Type:** UI clone project
- **Purpose:** Practice project for learning web structure and styling
- **Stack:** HTML, CSS

Personal Reflection

Ridwan's projects reflect steady growth, curiosity, and a willingness to explore new technologies. From AI systems to interactive web apps, each project demonstrates his ability to learn, build, and solve problems. His work shows that progress is not about speed — it's about consistency, creativity, and the courage to keep improving.