

AI-based Power Consumption Prediction System

Project Overview:

This full-stack project predicts power consumption using a RandomForest model.

It includes:

- Frontend: a simple static HTML/JS interface to submit input and view history.
- Backend: Flask app with endpoints /api/predict, /api/history, /api/upload.
- Database: SQLite (energy.db) storing measurements and predictions.
- Model: RandomForestRegressor saved as model.joblib (created by train_model.py).

Files included:

- app.py
- model.py
- train_model.py
- data/sample_power_data.csv
- static/index.html, static/script.js
- requirements.txt

How to run:

- 1) Install dependencies: pip install -r requirements.txt
- 2) Train model: python train_model.py data/sample_power_data.csv
- 3) Run: python app.py
- 4) Open http://localhost:5000 in your browser.

Short explanation (Bengali):

এই প্রকল্পটি একটি AI-ভিত্তিক শক্তি (power) ব্যবহারের