

Capstone Project: Dynamic Pricing for Urban Parking Lots

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This capstone project presents a real-time simulation model for dynamic parking pricing using Python and Bokeh.

Two models were implemented:

- Linear Model: Adjusts prices based on occupancy ratio.
- Demand-Based Model: Incorporates occupancy, queue length, traffic level, and special days.

Key Technologies:

- Google Colab, Python, pandas, Bokeh
- Data cleaning and feature engineering
- Real-time plot simulation

Visuals show price change per lot over time.

Outputs:

- final_submission.csv (demand-based pricing)
- linear_price_output.csv (linear model pricing)

Architecture Diagram:

Dataset -> Preprocessing -> Pricing Models -> Output -> Visualization

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