

Cost of living predictor

 by AI Cloud Solutions

Problem Statement

Traditional cost of living models rely exclusively on structured economic data such as income, inflation, or regional indices. However, in reality, a person's lifestyle — which significantly influences living expenses — is also shaped by unstructured visual factors, like the kinds of objects they own or use.

This project addresses the question:

Can we predict the cost of living more accurately by combining visual lifestyle indicators with economic metrics?

We simulate this by classifying user lifestyle images (e.g., books, chairs, laptops) into economic tiers (low, mid, high) and merging that data with country-level financial indicators. The aim is to build a hybrid AI model that reflects both the **behavioral** and **economic** dimensions of a user's life.

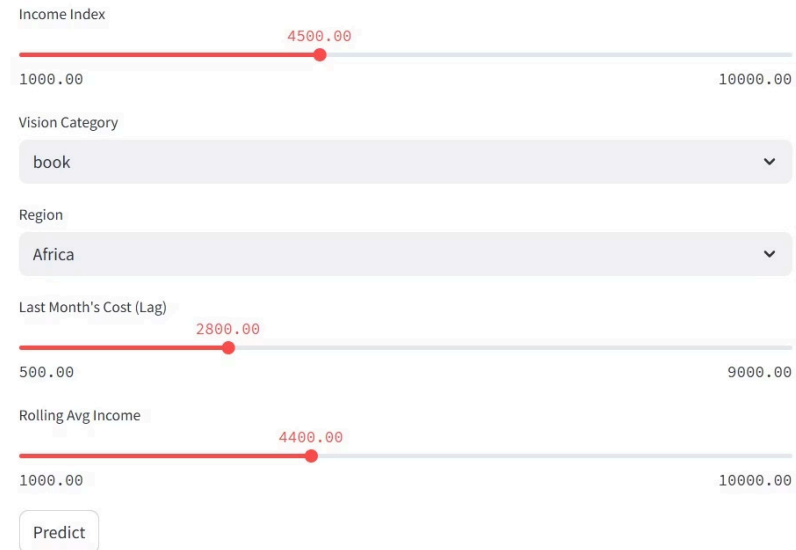
Impact

This system demonstrates how AI can bridge unstructured visual cues with structured economic insights to produce meaningful real-world forecasting — useful in policy, migration planning, or consumer intelligence.

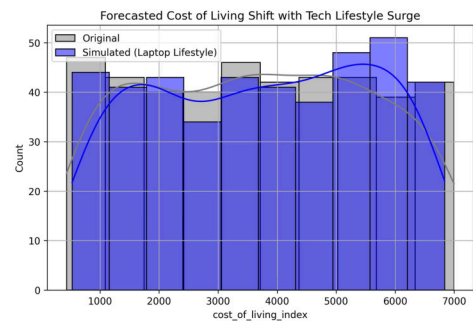
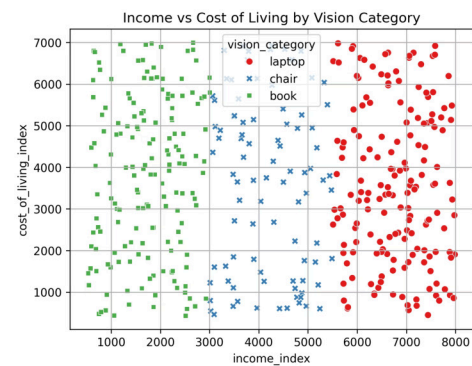
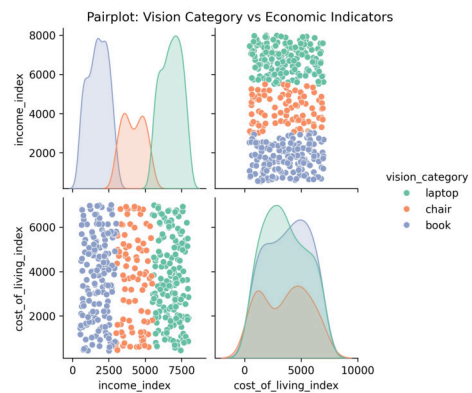
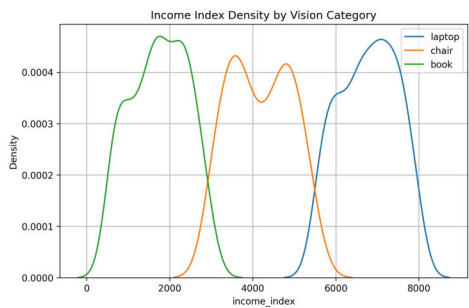
Solution Components

- **CNN model** classifies lifestyle from furniture images
- **Economic dataset** provides cost and income indicators
- **Feature engineering** creates hybrid variables (like cost-to-income)
- **ML models** (Random Forest, XGBoost) predict cost of living
- **Streamlit app** allows users to simulate scenarios visually

Predict Cost of Living



Visualisation



Data Sources

1. Vision Dataset

- Furniture & Essentials Image Dataset from Kaggle
- 3 selected classes: book, chair, laptop
- Represents: Low-tech, Mid-tech, High-tech lifestyles

2. Economic Dataset

- Simulated DSP-style dataset
- Contains: income_index, cost_of_living_index, region, urbanization_score

Simulated Forecast

- Scenario: What if every user adopts a "laptop" lifestyle?
- Replace vision_code for all rows
- Predicted cost increases → Policy Insight
- Visual: Histogram overlap of actual vs simulated

Resources

[Github URL](#)

ChatGPT Problem Solving Prompts