Phone Price Prediction

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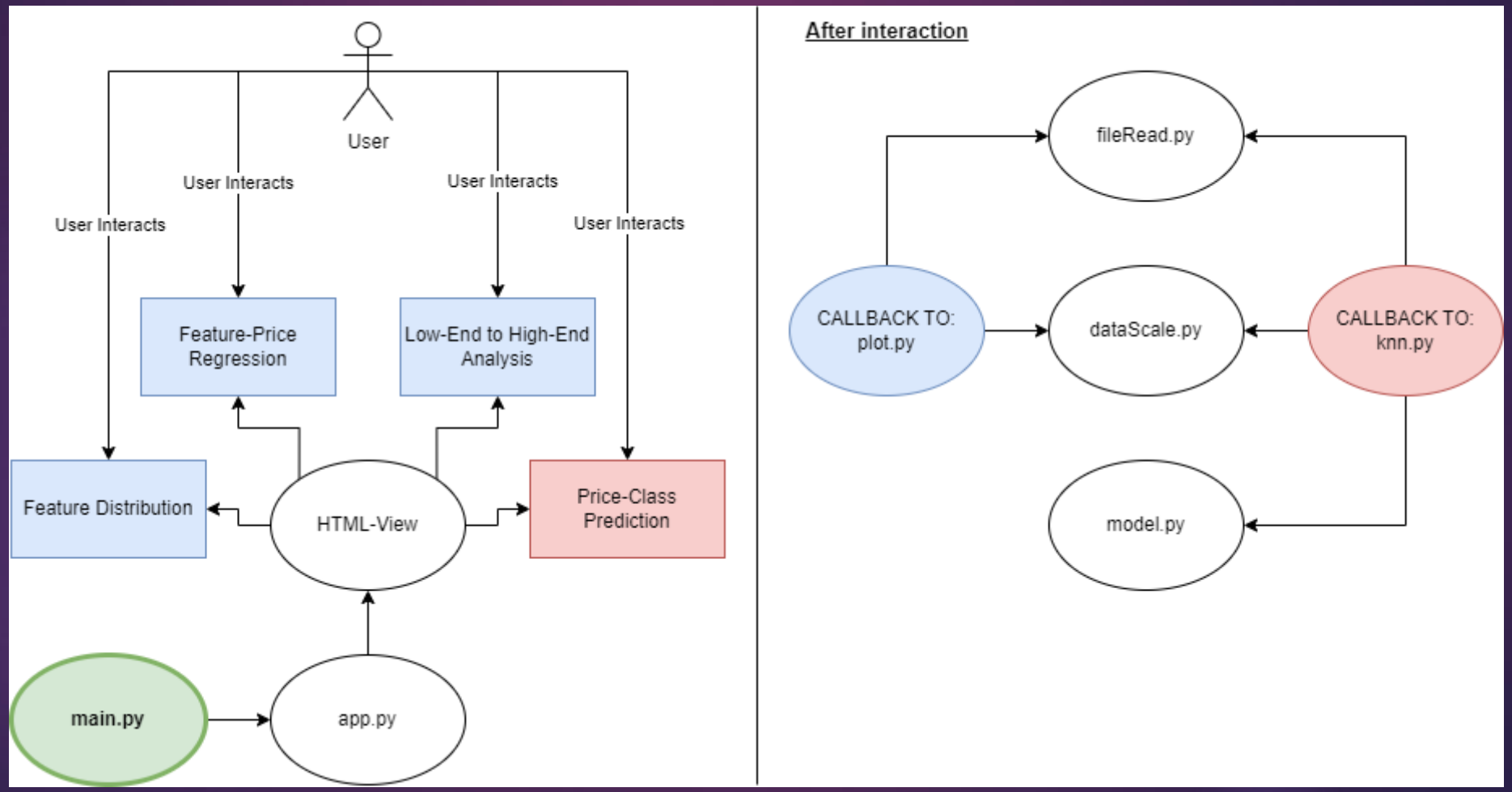
Goal

AUTOMATED WAY TO DECIDE ON PRICE RANGES FOR NEW PHONES

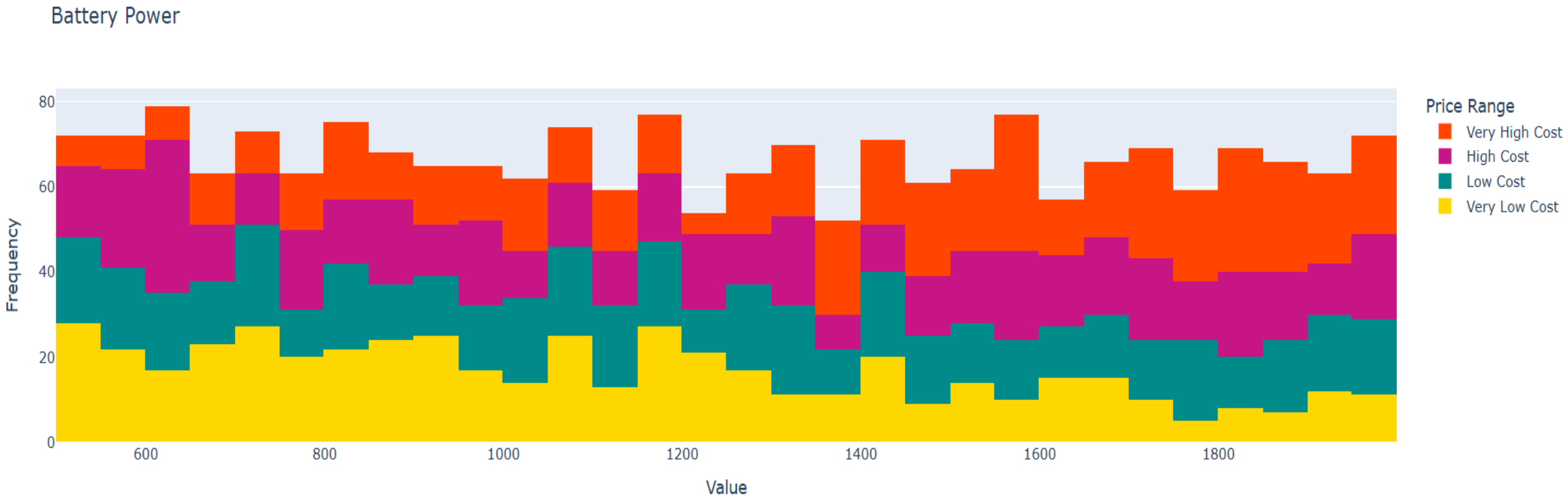
Program Architecture



Mobile Price Prediction - Analysis Dashboard

Plots | Price Class Prediction

Feature Distribution



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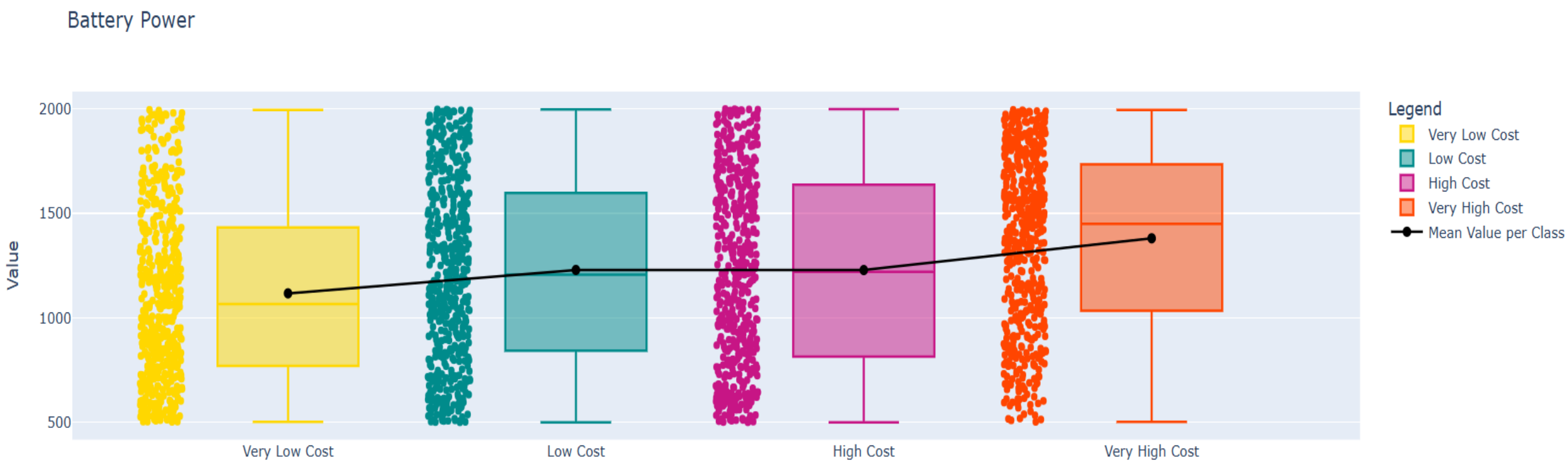
Feature-Price Regression



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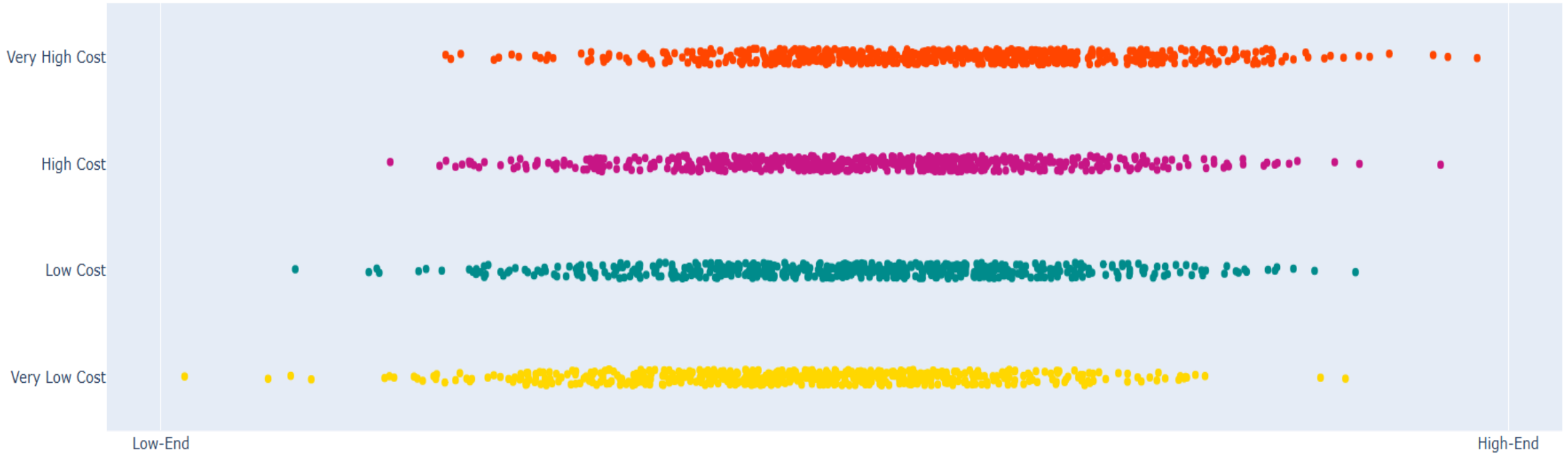
Low-End to High-End Analyze

Device Position from Low-End to High-End by Average Feature Value



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K-Nearest Neighbors Prediction

5 Predict

Predictions with k=5

Test point 1: High Cost (Average distance: 3.37)

Test point 2: Very High Cost (Average distance: 2.83)

Test point 3: Low Cost (Average distance: 3.29)

Test point 4: Very High Cost (Average distance: 3.67)

Test point 5: Low Cost (Average distance: 3.02)

Test point 6: Low Cost (Average distance: 3.08)

Test point 7: Very High Cost (Average distance: 3.13)

Test point 8: Low Cost (Average distance: 3.24)

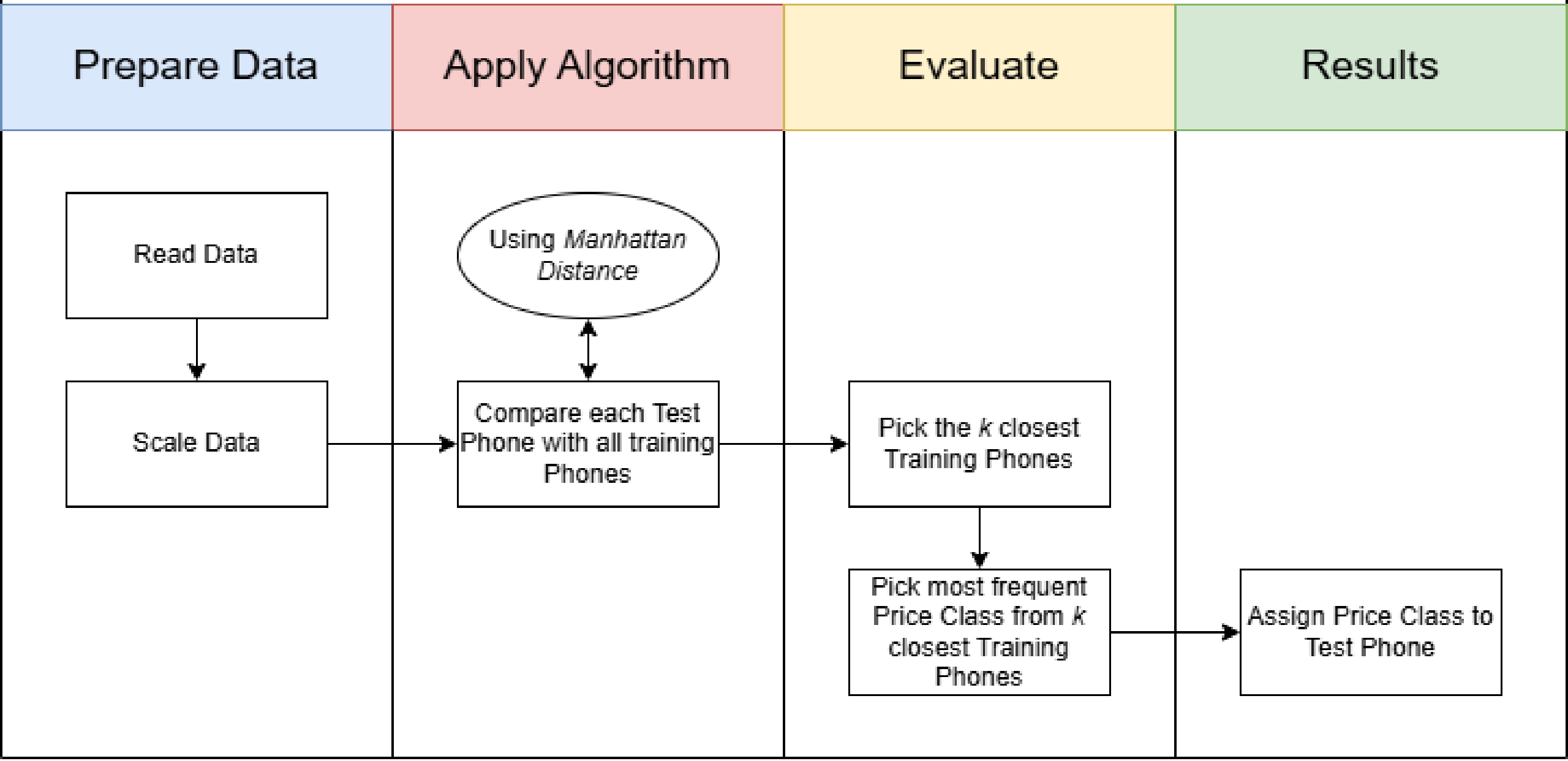
Test point 9: Very Low Cost (Average distance: 3.15)

Test point 10: Low Cost (Average distance: 3.21)

Test point 11: High Cost (Average distance: 3.73)

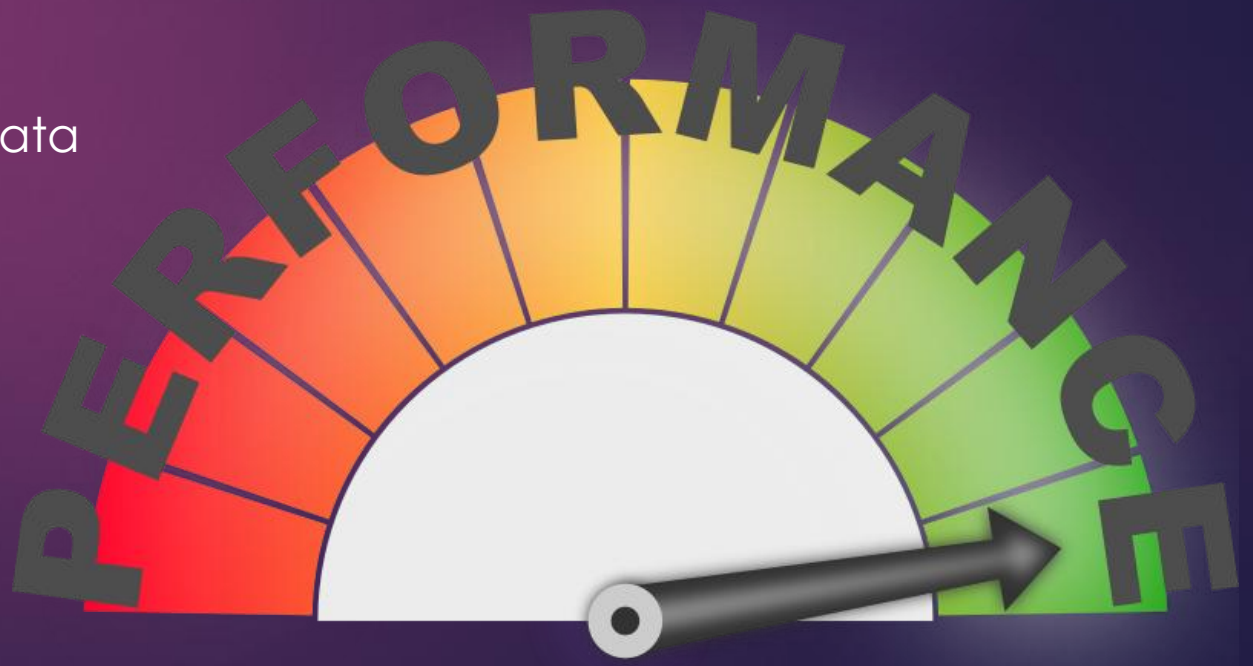
Test point 12: High Cost (Average distance: 2.99)

Model


Prepare Data
Apply Algorithm
Evaluate
Results
Read Data
Scale Data
Using *Manhattan Distance*
Compare each Test Phone with all training Phones
Pick the *k* closest Training Phones
Pick most frequent Price Class from *k* closest Training Phones
Assign Price Class to Test Phone

Technical Perspective

- Challenges
  - Slow on large datasets
  - No learning phase
- Why it does not matter
  - Datasets are always small
  - Can not learn on fluctuating market data



Domain Expert Perspective

Mistakes & Risks

Misclassification

Constant monitoring of trends

Solutions

Double checking

Simulate Predictions early

Societal Perspective

Dangers

Biases in data

Over-reliance

Consumer trust

Positive

Help smaller companies

Fast classification