DO PEOPLE FOCUSED ON EXERCISE ALL SHOP AND LOOK THE SAME

JOHN MCELDERRY, ANVESH RAVIPATI, AUSTIN ROSE
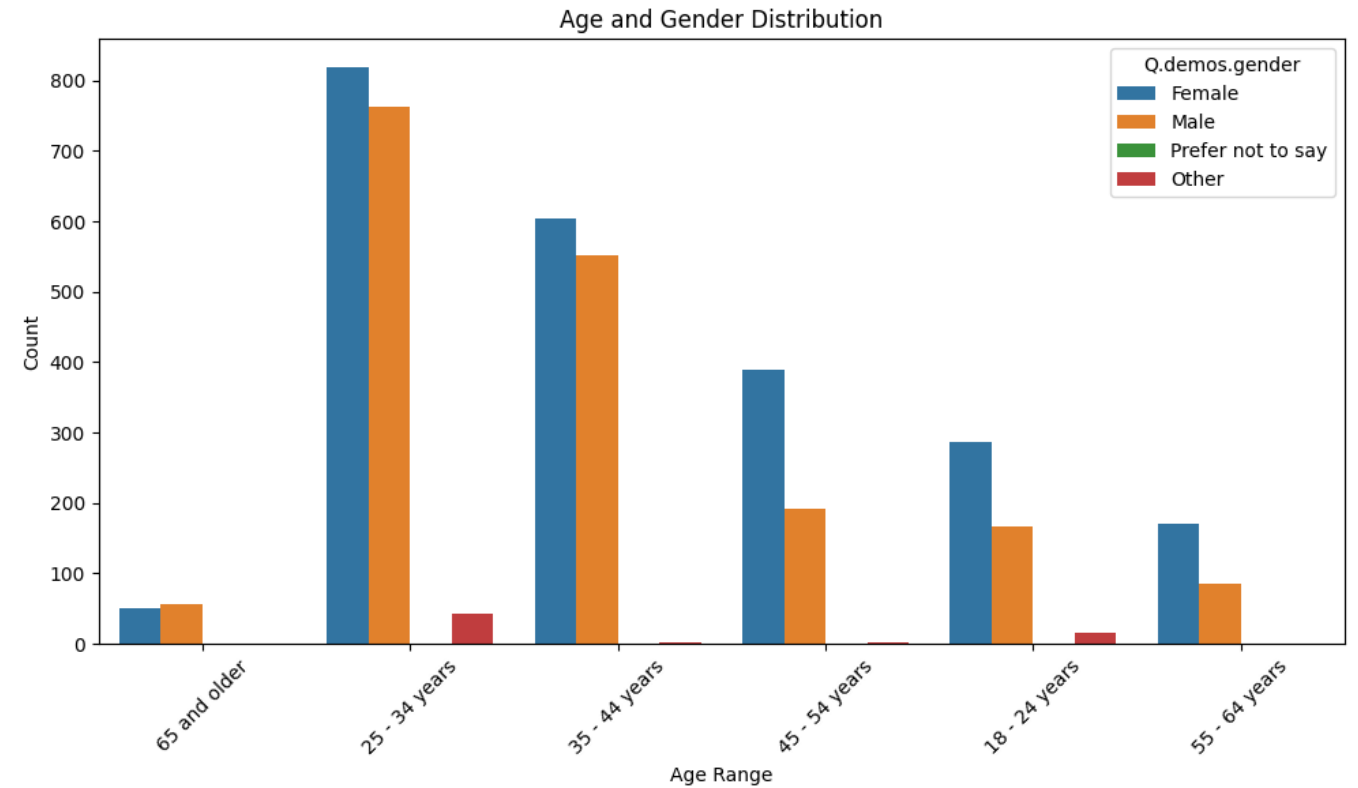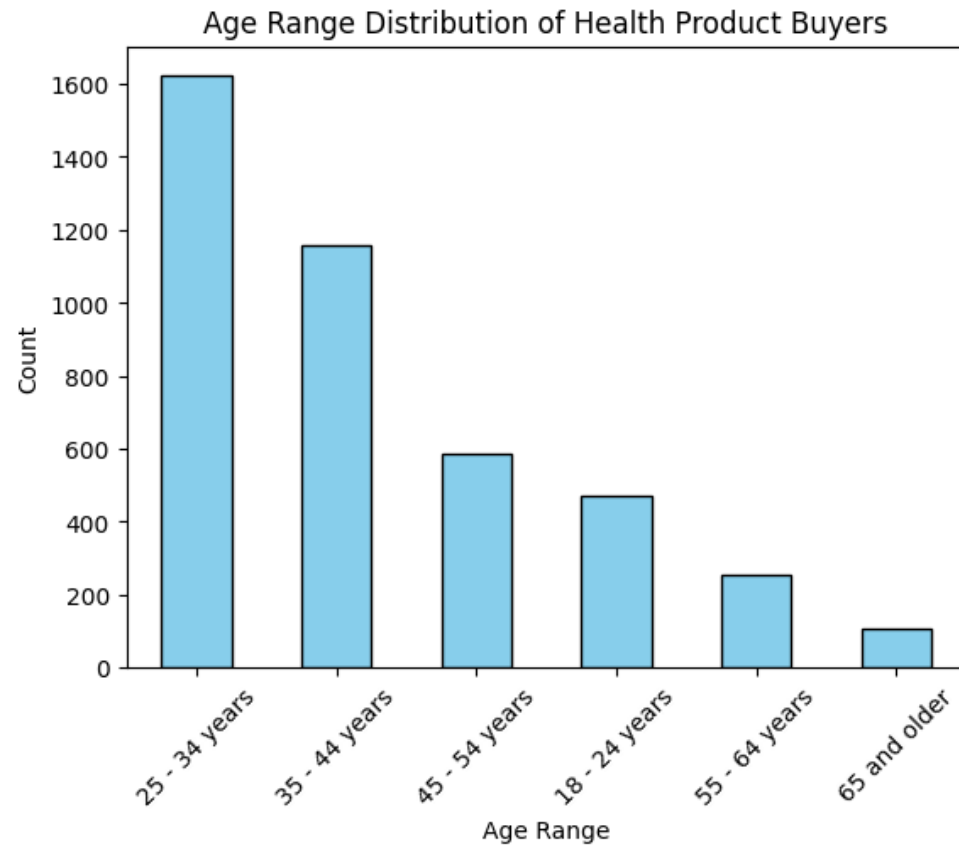
RESEARCH QUESTION & EXPECTATIONS

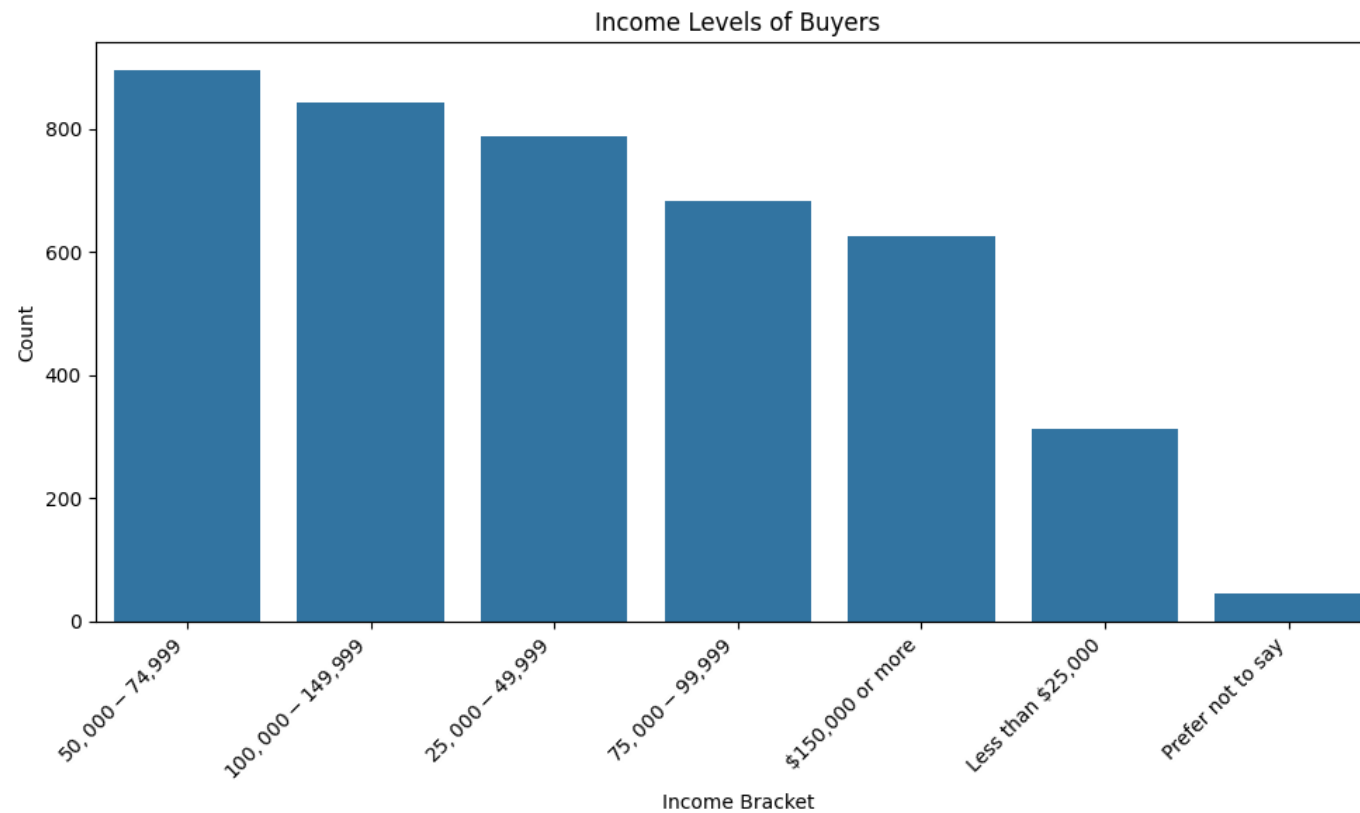# RESEARCH QUESTION & EXPECTATIONS

- Core Question:

    o Can the profile of individuals buying exercise-related items predict future purchases?

- Goal: Assist Amazon in increasing sales in the exercise and fitness market.
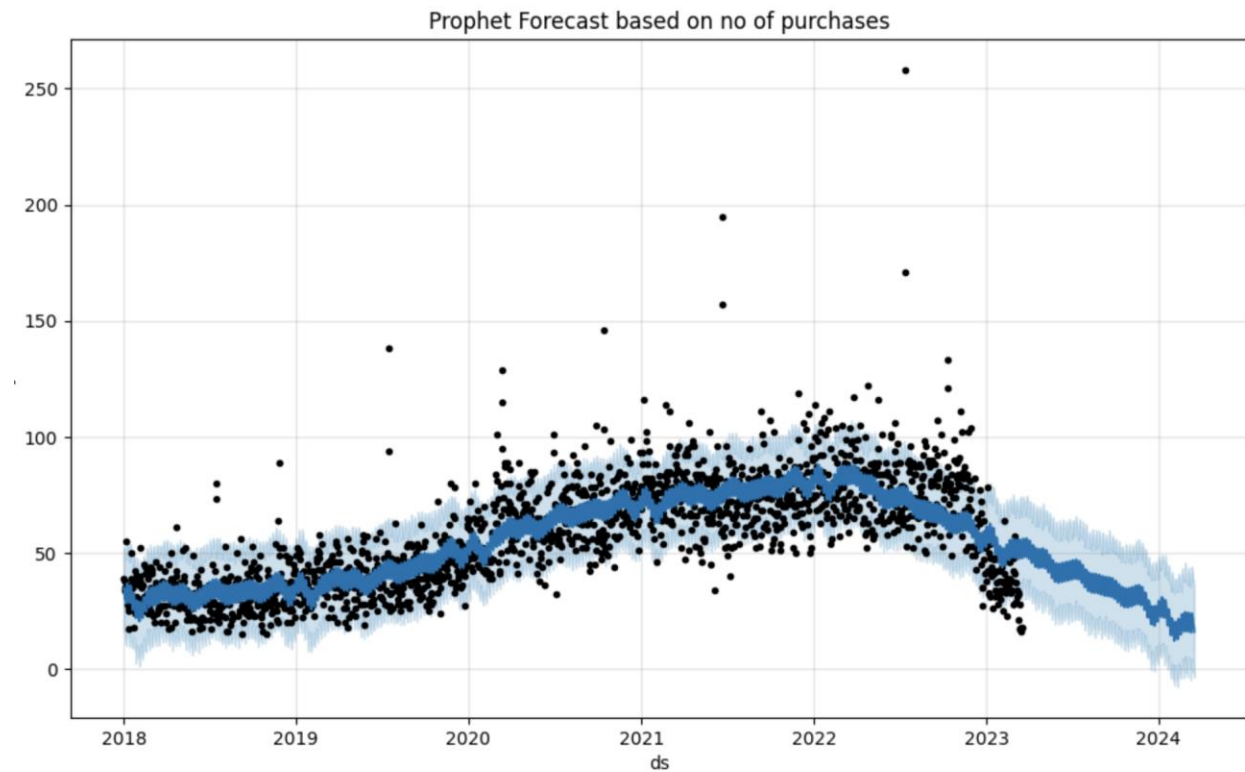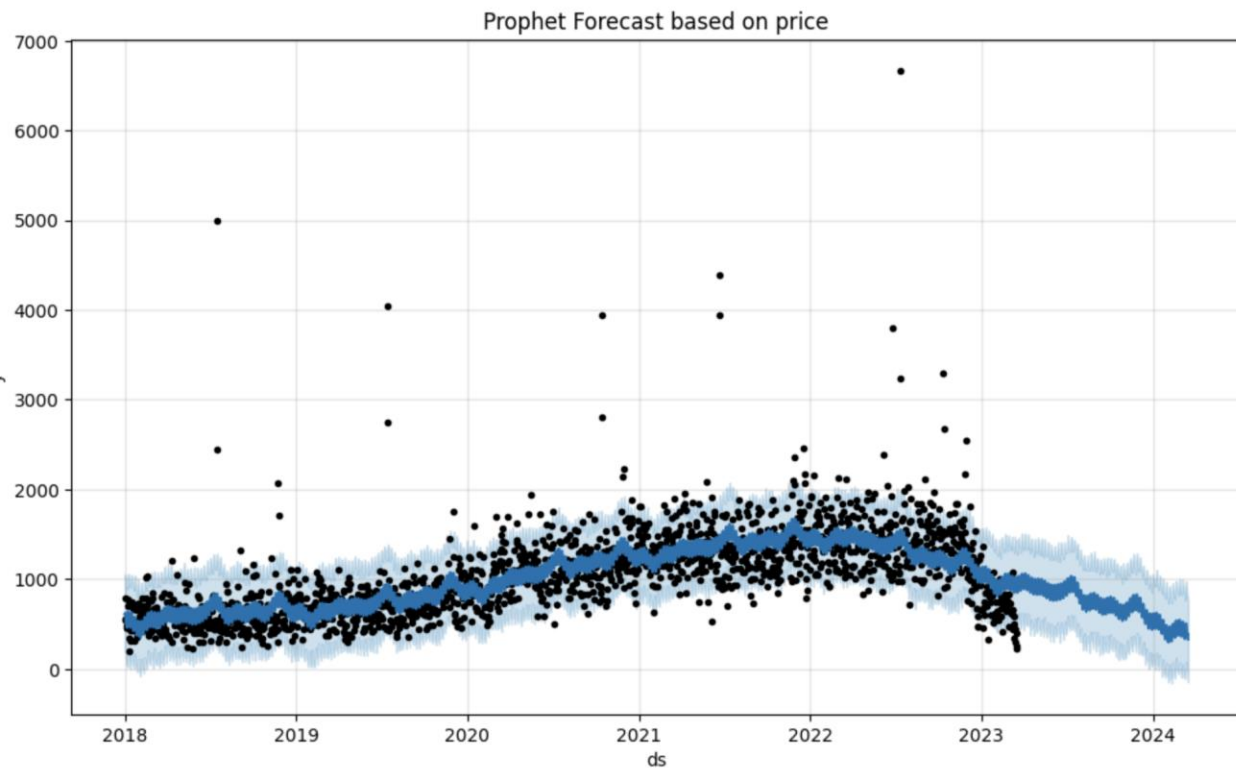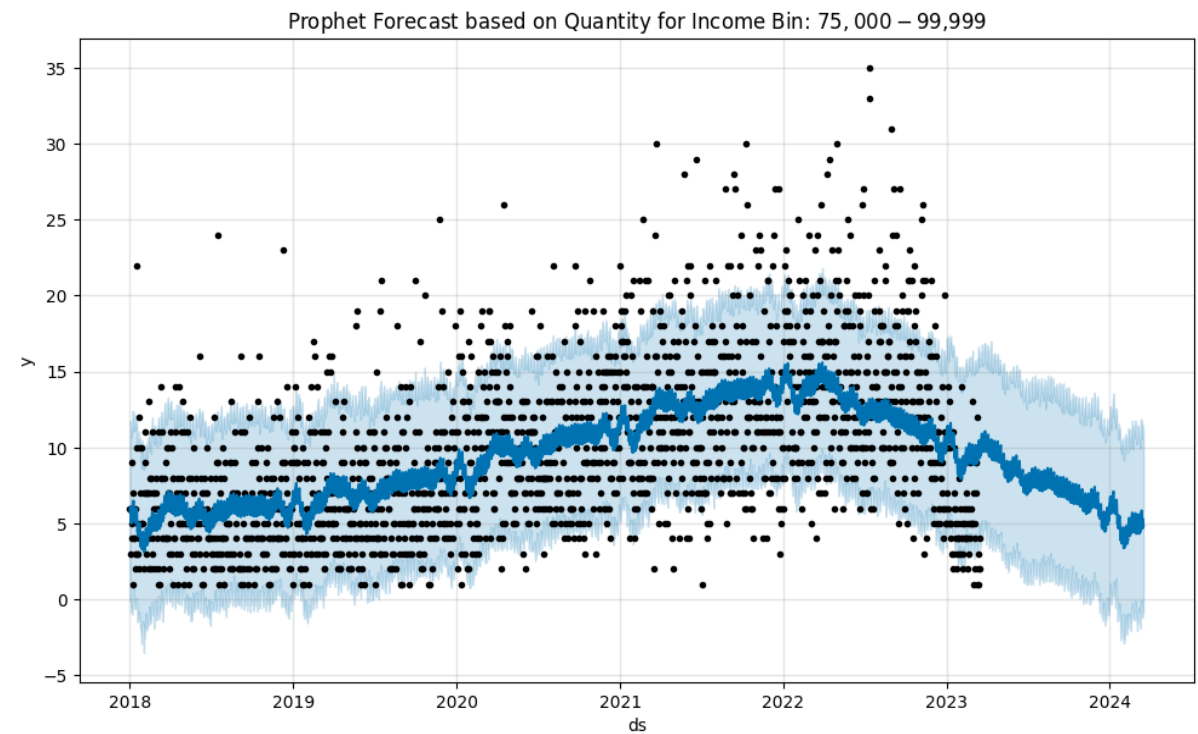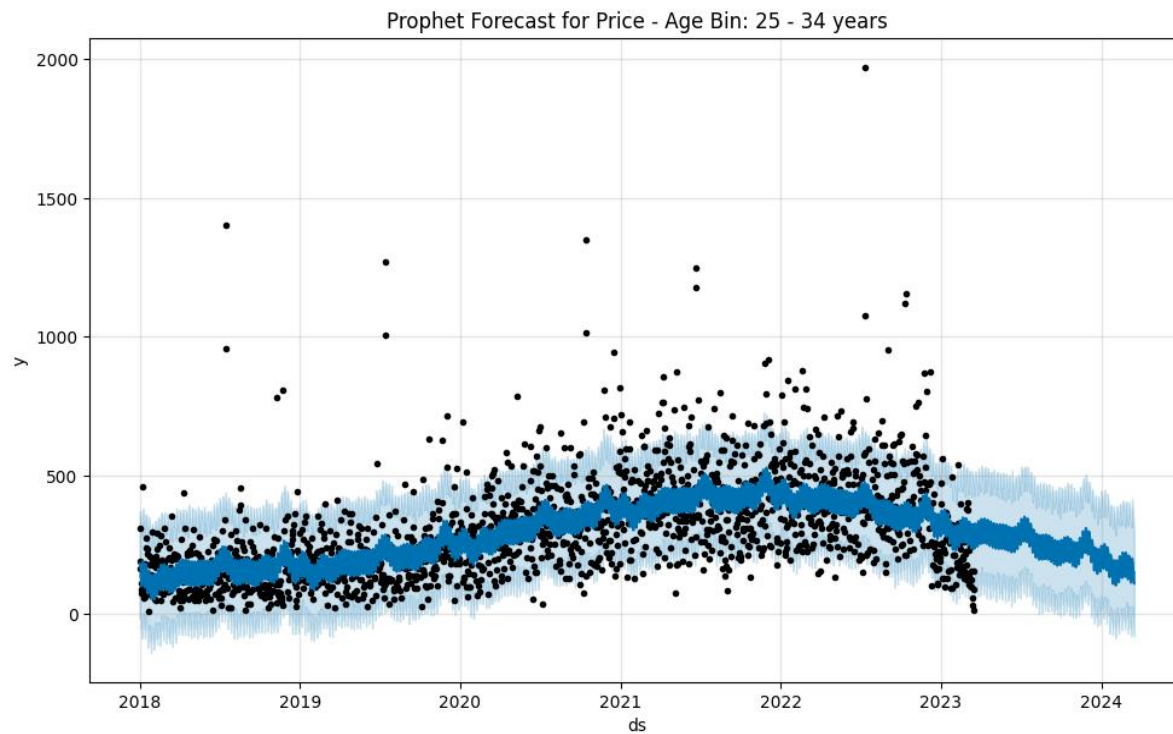
- Expectations

FINDINGS

DATA DISTRIBUTIONS

DATA DISTRIBUTIONS

Income Levels of Buyers

PROPHET

Prophet Forecast based on price

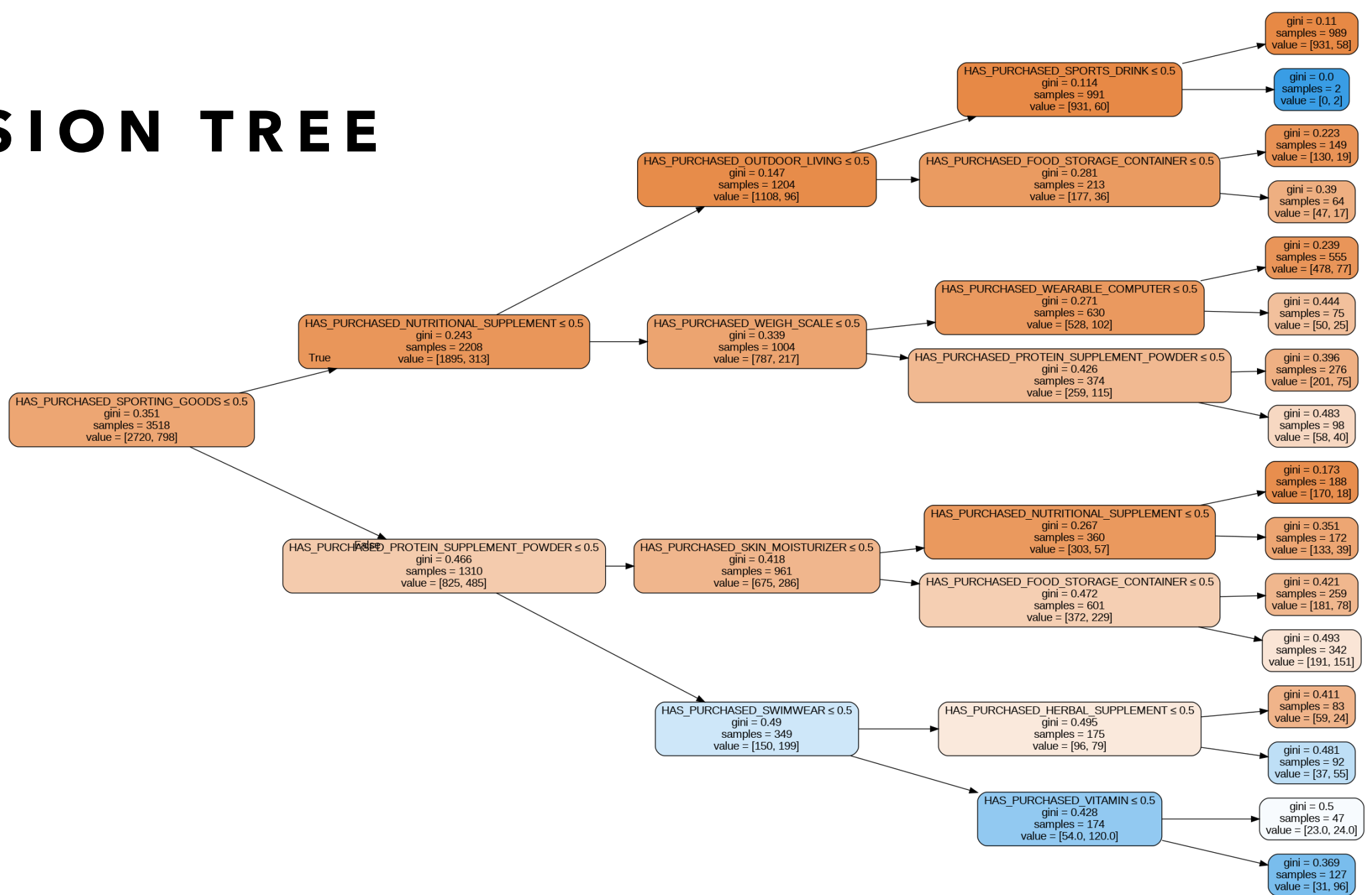Prophet Forecast based on no of purchases

PROPHET

DECISION TREE

FINDINGS

- **Highest Priority:**

- Young people

- Sporting goods, Protein supplement powder, Nutritional supplements, Outdoor living, Weight scale, Swimwear, Food containers.

- **Other Recommendations:**

- Herbal supplements, Vitamins, Outdoor living, Skin moisturizers.

BACKGROUND & TECHNIQUES

DATA PREPARATION

- Initial dataset contained various product categories.

- Focus narrowed to fitness categories for targeted analysis.

- Binary marking for easier processing in decision tree model.

- Date formatting for time-series model.

PROPHET

- Set 365-day period

DECISION TREE

- Used sklearn library with Python.

- Produced an 80.6% accuracy result.

- Max Depth of 5.

LIMITATIONS

- Data volume and background data limitations.

- Focus on a small subset may lead to misleading results.

- Sample demographics may not reflect the broader US population, causing potential bias.

QUESTIONS?