

LPL Financial Hackarama 2025

3rd annual university Hackathon

Jan 25th 8am PT/ 11am ET

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SOLUTION TYPE

- similar to 2023's winners: use sentiment analysis to analyze reviews of a certain product
- similar to 2024's winners: use generative AI summarizing stocks in newsletter format

...but...

We focus on comparison of physical goods. By doing this, we help financial advisors managing resale businesses. This is a small program designed to be a time-saver. It is designed to go hand-in-hand with sentiment analysis and generative AI summarization.

SOLUTION DESCRIPTION

SmartShopper - PRODUCT FINDER & SUMMARY, PRODUCT ANALYSIS, PREDICTIVE ANALYSIS

a program that finds products and identifies optimal buying opportunities and resale strategies

FEATURES:

1. **FINDER:** provide product summary & analyze product costs (price, shipping, fees, etc.)
 - basic description
 - color, size, model year, etc.
 - financial attributes
 - brand reputation
 - condition
 - rarity
 - product reviews
 - market trends
2. **PRICE COMPARISON:** scan and compare prices among different sources, websites, platforms
 - identify top-selling products based on historical market data

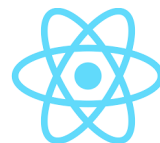
RESULT:

a program that solves inefficient product sourcing by briefly reminding users of product information, automating price comparison process, providing actionable insights to optimize buying and reselling strategies

TECH STACK

WHAT WE USE:

- API Gateway
 - Created a HTTP API that exposes an endpoint for calling scraping function
 - A front-end interface allowing users to make requests to start comparing goods
- Lambda
 - Actual scraping logic – we compare shoes from Nike and Amazon
 - A request made to the API gateway triggers the lambda function



FUTURE WORK:

- Amazon Comprehend for advanced web scraping and product information
- Better looking interface, various websites for synthesizing prices and information

ADDITIONAL WORK:

- AWS Sagemaker? (using scraped data for identifying pricing patterns using machine learning models)
- AWS Bedrock? (for a more general overview of product information)
- Amazon Personalize? (recommended products from historical data)





Thank you!