Manivannan Prushorth

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Education

University of Southern California, USA: Master of Science in Computer Science. GPA: 3.5/4.0 — Expected May 2025
King's College London, UK: Bachelor of Science in Computer Science. — June 2023

Skills

Java | Python | HTML | CSS | JavaScript | React | TypeScript | C++ | SQL | Swift | SwiftUI | Angular | Node | Express
NoSQL | MongoDB | C# | Frontend | Backend | Mobile | REST

Projects

Travel Route Optimizer iOS Mobile App — June 2024 - July 2024

Swift, Swift UI, Python, Flask

- Determined the optimal route to visit all places given their business hours and driving distance constraints.
- Implemented algorithmic solution to the vehicle routing problem with time windows using Python backend.
- Leveraged Google APIs to allow users to search for locations and scraped requests to obtain business hours.

Stock Exchange Web App — Feb 2024 - Apr 2024

Angular, Node, Express, MongoDB, TypeScript, Bootstrap

- Created a backend REST API for actions on stocks such as buying, selling and favoriting.
- Reduced price chart rendering latency by 4 seconds and avoided reaching API rate limits by using local cache.
- Implemented dynamic UI and database interactions using Angular Pub-Sub model to create seamless UX.
- Developed auto-complete search box for stock tickers using debounce to reduce API requests by at least 2x.

Real Estate Insights Google Chrome Extension — Nov 2022 - Mar 2023

React, TypeScript, Material UI, Jest, Webpack

- Published my extension on the Chrome Web Store.
- Browser extension to surface additional information on properties when browsing Zillow and Realtor.
- Leveraged Google Cloud Nearby API to reveal food, health, transport and education insights for the property.
- Achieved 100% code coverage with 144 integration and unit tests by using Jest for asynchronous code.
- Saved $5/week by mocking API responses and blocking network requests during each set of test runs.

Book Recommender Machine Learning Web App — Feb 2022 - Mar 2022

Python, HTML, CSS, JavaScript, Django, SQL

- Led a team of 7 to create an app to recommend books to users.
- Implemented collaborative filtering book recommender using KNN and compared it against an SVD algorithm.
- Trained on a dataset of 200,000 books and evaluated using RMSE and found SVD to be 15% lower.
- Decreased latency of recommendations by 5 minutes by using batch learning to avoid retraining the model.
- Developed role-based access control system for club owners, members and applicants.

Relevant Courses

Algorithms | Data Structures | System Design | Web Technologies | Databases | Software Engineering | Statistics
AI | Operating Systems | Software Testing | Concurrency | Machine Learning | Security | Optimization Methods

Awards

LAMDA Public Speaking Grade 6 Distinction | National Citizen Service Challenge | Piano ABRSM Grade 5

Volunteer Experience

- Collaborated with 3 teachers to organize sports events at Foxborough school as the student leader.
- Supervised 10 elderly patients and caregivers in weekly meetings at Dr French Memorial Home.
- Teamed up with Oxfam Charity and 5 others to negotiate and sell used items to raise money.