

MANIVANNAN PRUSHORTH

Email: prushorth27@gmail.com (+44) 7474 06 1994

EDUCATION

King's College London, UK - 2020-2023

BSc in Computer Science Year 3

Upton Court Grammar School, UK - 2012-2017, St Michael's Grammar School, UK - 2017-2019

A Levels: A*, A, A: Mathematics (A*), Further Mathematics (A), Physics (A)

GCSEs: 10A*, 2A which includes Mathematics Grade 9, English Language and Literature Grade 8

SIGNIFICANT PROJECTS

Google Chrome Extension - Nov '22 - Mar '23

React, TypeScript, MaterialsUI, JEST, Webpack, Node

Developed a chrome extension for the Realtor/Zillow US real estate websites.

- Users can select a topic such as food and the fetched Google Cloud API data will be displayed as a series of cards for the nearby places around the house.
- Users can view a photo on the card and use filters above to update the card details.
- Worked with asynchronous features via promise, the Chrome browser APIs and React useEffect hooks.
- Integration and unit testing performed on components. Mocked API requests and Chrome browser tab.
- Used the Google Cloud Places API which includes the nearby search, photo and geocoding api's.

Pacman - Machine Learning Agents - Nov '22 - Mar '23

Python, NumPy

Built agents from scratch with supervised and reinforcement learning in a 2D (two-dimensional) world.

- Decision-Tree Agent which used information gain for the attribute selection as part of supervised learning.
- Breadth-First-Search (BFS) Agent which builds a grid of distances from food and ghosts.
- Markov Decision Process(MDP) Agent which used the value iteration algorithm to calculate the utilities in a non-deterministic model but fully observable world.
- Q-Learning Agent which used temporal difference learning and a count-based exploration function.

Book Recommender System + Web App - Feb '22 - Mar '22

Python, Django, Panda + Surprise Library

Integrated into a web app to recommend books to users and to book clubs.

- Filtered the 1 million book-ratings dataset.
- Evaluated models using 8 offline metrics and varied parameters including similarity measures such as cosine, pearson and mean-squared-difference to optimize the scores.
- Minimized the RMSE score to 1.58 using the SVD algorithm which was 57% less than the next best score.
- Used online A/B metrics to measure perceived quality.

Thread Pool For Image Filter - Feb '22 - Feb '22

Java

Thread pool class for a multi-threaded image filter application

- The thread pool size cannot be exceeded as threads are added but are instead kept in a waiting queue.
- Threads which reach a terminated state in the thread pool are replaced by threads in the waiting queue.

Image Classification IOS Mobile App - Jul '21 - Aug '21

Swift and TuriCreate

A user can upload an image or search for an image using the Unsplash API to classify between apples and pears.

- Trained a machine learning model using the TuriCreate library which was then integrated into the IOS app.

Airbnb London Standalone Desktop App - Mar '21 - Apr '21

Java, JavaFX Scene Builder

Explore properties that are available for rental in London. Used Model-View-Controller(MVC) design pattern.

- Performed data analysis on an Airbnb dataset via the Java Stream API using the functional paradigm.
- Users can interact with a colour-coded geographical map of London boroughs to see various statistics.

OTHER SKILLS: C++/Scala/HTML/CSS/JavaScript/MySQL/C