James Rennie

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Education

University Of Bristol *(graduating 2027)*
Masters of Engineering with Study Abroad in Computer Science
- **Key modules:** Parallel and Distributed Systems, Imperative and Functional Programming, Algorithms, Computer Architecture, Software engineering, Data and signal processing.

Experience

Scheduling Desktop App | Sprint Community Transport   *(Sep 24 - Present)*
(Flutter)
- Volunteered for a charity to develop a bespoke scheduling and client management software, to modernise their current labour intensive solution.
- Developing a full stack desktop app from scratch using Flutter and an SQL database, allowing multiple people to manage the stored client data and update schedules.
- Implemented Continuous integration using GitHub, increasing development speed and ensuring consistent and reliable code releases.
- Leading the communication with the client, arranging meetings and collecting feedback, managing both the team and the clients time efficiently and meeting their deadlines.
- Managing collaborative development using GitHub through pull requests, issues and code reviews along with an agile methodology.

Projects

Automatic Maze generation game
(Python)
- Used a recursive backtracking algorithm, along with a search algorithm, to produce visually appealing and solvable mazes, for gameplay in a maze solving game.
- Implemented many foundational algorithmic principals, along with standard algorithms such as Dijkstra's.
- Use of object oriented principles to implement a more reliable and maintainable solution.
- Implemented a user interface, settings and gameplay, making an engaging and entertaining game.

BrisHack Hackathon | Bike Vision
(Flutter, Python)
- Combined technologies to create a server and frontend to provide a smooth user experience in just 24 hours.
- Used an openly available computer vision model to detect litter of specific types through a networked webcam, and then send updates to the frontend application after processing with the server.
- Utilised version control to rapidly prototype and develop collaboratively and delivered a presentable and bug-free product under time pressure.

Achievements

Team GB canoe slalom athlete: Showed high levels of drive, commitment and self motivation to achieve a place on the reserve team for international events in the sport canoe slalom with team GB.
Combat robotics competition winner: Developed and built multiple combat robots from scratch for Bristol based events in combat robotics, solving electrical engineering problems and learning new skills to achieve first place at the most recent BEEES robot wars event.

Technical skills

Languages: Dart, Python, Go, Java, HTML, Haskell, C, JavaScript
Concepts: Agile methodology, Parallel programming, Continuous integration, Test Driven Development, Algorithm analysis, Object oriented paradigms, Git, Github, Collaborative development, Client engagement, AWS,