Oscar Elliott

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Education

The University of Adelaide Graduated December 2024
Bachelor of Science in Computer Science (Honours) (GPA: 6.20 / 7.00) *Adelaide, SA*

- **Relevant Coursework:** Data Structures and Algorithms (C++), Statistics & Numerical Methods II, Computer Networks & Applications (C++), Distributed Systems (Java)
- **University Life:** Active member of Computer Science Club frequently attending industry, hackathons and other club events, Competitive Programming Club frequent participant in the clubs in person and online competitions with exceptional results

Experience

Software Engineering Intern at InterSystems | *C++*, *Boost*, *llama.cpp*, *OpenAi API* December 2024 - February 2025

- Worked in a team to develop and research cutting edge solutions for a globally deployed hospital software platform.
- Gained hands-on experience with proprietary technologies and programming languages, enabling me to contribute meaningfully to the team's projects in a short timeframe.

Academic Tutor March 2021 – October 2024

- Tutoring students in CS and SACE mathematics, developing their understanding and academic performance.
- Utilized my clear communication skills to help students improve their knowledge and academic performance.
- Adapted to feedback from students to help them learn in ways that best suited their learning style.

Projects

Bi-Bot | *C++*, *React.js*, *Typescript*, *Tailwind*, *Shadcn*

- Engineered a robust trading bot backend using C++ with Pistache and OpenSSL, enhancing HTTP request handling and security, and integrating with Binance API
- Developed a TypeScript and React front-end application for real-time trading bot management, optimizing user experience with responsive design and seamless communication with the C++ backend via HTTP requests

Research Paper Clustering | *Python*, *scikit-learn*, *NumPy*, *Pandas*, *Selenium*

- Developed a research paper clustering pipeline using Python, leveraging advanced NLP techniques to preprocess and vectorize abstracts for unsupervised machine learning
- Implemented DBSCAN algorithm to identify clusters of research papers based on abstract similarity, enabling discovery of topics with varying content and thematic focus
- Implemented automated web scraping using Selenium, streamlining data collection and bypassing web obstacles such as Cloudflare
- Configured flexible build and execution process using make commands, automating the pipieline

Purpose Project | *Python*, *Flask*

- Designed and integrated AI-powered assessments using OpenAI APIs, providing personalized career insights through advanced language model analysis, significantly improving recommendation accuracy
- Implemented a KDTree algorithm with nearest neighbor search to match students with tailored career paths, optimizing search efficiency and enhancing the user experience with relevant recommendations

Linux Shell | *C*

- Implemented job control functionality, allowing users to manage background and foreground processes, increasing shell usability and efficiency.
- Designed a robust command parsing mechanism, ensuring accurate handling of complex shell commands with multiple arguments and flags.

Technical Skills & Achievements

Achievements: Awarded with my team for developing the best-performing machine learning pipeline in an industry project with InsightFactory.ai, predicting rail breaks.
Languages: C++, Python, Java, TypeScript, C, JavaScript, SQL
Technologies: React.js, Vue.js, Flask, Databricks, Node.js, Express.js, Tailwind, HTML, CSS, Linux, Git, Docker