

Oscar Elliott

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Education

The University of Adelaide

Expected November 2025

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 coding competitions with placements in the top 10%

Experience

Academic Tutor

March 2021 – Present

- Tutoring students in computer science and SACE mathematics, enhancing their understanding and academic performance.
- Utilized comprehensive understanding and clear communication skills to help students improve their knowledge and academic performance.

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 pipeline

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

Languages: C++, Python, Java, TypeScript, C, JavaScript, SQL

Technologies: React.js, Vue.js, Flask, Node.js, Express.js, Tailwind, HTML, CSS, Linux, Git, Docker