Chloe Koe

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Driven computer science and electrical engineering student with a passion for algorithms, high performance computing and machine learning. Having served as a project lead in a student engineering team, I possess extensive experience both leading and working within multidisciplinary groups for global competitions and research.

Skills

- Java, Dagger, Maven
- Python (Pandas, NumPy)
- Deep learning (PyTorch)
- Parallel programming: POSIX, OpenMPI
- MatLab & data visualisation
- JavaScript, TypeScript, basic React
- Version control: GitLab, GitHub
- ANSYS Fluent, Spaceclaim, CFD

Technical Experience and Projects

IMC Trading / Sydney
Software Engineering Intern / Nov 2024 - Feb 2025

Affinda - Vesparum Capital / Melbourne
Data Science Intern / Nov 2023 - Feb 2024

- Designed and implemented the testing framework for benchmarking in house models to competitor products. This involved implementing semantic/textual comparison, text standardisation, and normalisation. Developed a custom scoring system using fuzzy logic and graph algorithms. Documented methodology and results in white paper. Work was used internally to improve model accuracy by 2%.
- Developed and deployed a Python-based analytics dashboard with Plotly, creating visuals for competitor analysis that were showcased on the company website as part of a major product launch.
- Contributed to the training of a bespoke document parsing model for a client, involving data preparation and post-processing validation script creation.

Monash Deep Neuron / Melbourne
Deep Learning Project Member / March 2023 - Current

- Engineering simulations with WebGPU neural cellular automata for optimised rendering. Experience working in WGSL for WebGPU parallel computations.
- Worked on novel method to integrate stable diffusion techniques with graph neural networks to improve image generation from scene graphs using PyTorch Lightning, Pandas, NumPy.
- Led machine learning seminars for senior students at local high schools in Melbourne.

Monash High Powered Rocketry / Melbourne
Dynamics & Simulations Project Member / August 2022 - June 2023

- Developed and maintained Monash HPR's in-house trajectory simulator, improving it by automating computational fluid dynamics processes such as enclosure sizing and mesh generation for design and analysis.

Education

Monash University / Melbourne
Bachelor of Electrical Engineering (Honours) and Bachelor of Computer Science / 2022 - 2026, WAM: 85

- International School in Artificial Intelligence and its Applications in Computer Science (ISAAC) 2023 Conference Participant. Fully sponsored position
- Recipient of the Women's in Engineering Scholarship 2022

Taipei European High School / Taipei, Taiwan / IB Score: 41, ATAR: 98.70

References

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