Curriculum Vitae

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Summary

I am a newly graduated M.Phil student in Computer Science at the University of Sydney who is extremely interested in everything related to development, research and security.

Throughout my schooling, my passions lied in technology with a keen and strong attachment to Mathematics which I translated into private tutoring. Furthermore, I love teamwork and sports performing both in-school and competition soccer and rugby league, touch football as well as regional events for the above.

My goals are to work in an environment catered for innovation and development towards new and exciting features. It is rewarding to me to be a part of the work towards a new feature or technological breakthrough. My research interests are concerned with systems research, conditional computation and sparsity.

Education

Institution	Year
High School	2012 - 2016
University of Sydney	
Bachelor of Mechatronics Engineering	**Feb 2017 - July 2017**
Bachelor of Information Technology	**July 2017-2018**
Bachelor of Advanced Computing	**2018-2021**
Masters of Philosophy (Engineering)	**2022-2023**

Work Experience

Year	Experience	Comments
2017 - 2019	**Mathematics tutoring**	Really interested in mathematics so being able to translate my interest in it to teaching was an enjoyable experience.
2019 - Current	**University Tutor at the University of Sydney.**	Units taught included: • Teaching Assistant for Managing and Analysing Data with SQL (OLET1301) • Introduction to Programming (INFO1110) • Introduction to IT Professionalism (INFO1111), • Object Oriented Programming (INFO1113) • Software Construction and Design 2 (SOFT3202) • Software Concurrency (Soft3410) • Marker for Software Construction and Design (SOFT2201) • Medical Science Interdisciplinary Project (Unity Development) (MEDS3888) • Human Biology (Unity Development) (MEDS1001)
2020 - 2021	**Summer Research Scholarship**	Completed a Summer research scholarship at the University of Sydney. This involved months of researching Bayesian Neural Networks with the Argonne Laboratory (Washington) to help understand performance optimisations.
2022 - 2024	**Research Assistant**	Research assistant as System Machine Learning laboratory at FSA (Future System Architecture) `https://fsa-lab.org`.
2022 - 2023	**Unity and AI Developer**	Unity engine and AI developer at the University of Sydney for the FMH (Faculty of Medicine and Health) Media Lab.
2023 -	**IT Admin Volunteering for TPA**	Volunteering as a System Admin IT expert for the non-profit organisation, Taking Paediatrics Abroad (TPA) `https://www.takingpaediatricsabroad.org.au/`.
2024 -	**Virtual Assets Officer**	Virtual Assets Officer at the University of Sydney for the FMH (Faculty of Medicine and Health) Media Lab.
2024 - 2024	**Casual Lecturing**	Casual Lecturing for INFO1111, one session.

Research Topics

- Conditional Computation
- Sparsity
- Hardware Accelerators
- Machine Learning
- Compilers
- Explainable AI

Software and Tool Skills

- Python
- Django
- Java
- HTML/CSS/JS
- Huggingface
- Docker
- Unity
- Blender
- React

Projects and Conferences

Etaki Integration (2024) (Ongoing) Etaki integration into the FMH Media Lab, continuing on from valuable work developed by ICT Techlab, we aimed to build on-top of existing React/Amplify frameworks and house a complete system for 3D and 2D model viewing for the University.

MPhil Thesis Project - Mixture of Experts (2023) My M.Phil project revolved around the field of Mixture of Experts, a relatively new technique that has found significant success other recent years, being features in models such as GPT-4. My work was assisted with the help of fantastic researchers

to develop a more memory efficient model that is more amenable to computation for smaller compute devices.

UMAC Unity Conference (2023)   International small-scale unity conference held by the FMH Media Lab on Unity development.

Social VR Unity Project (2023)   Social VR project for Trauma Specialist training. This is being made whilst working at the FMH Media Lab.

FMH Lab Website (2023)   This website was a full scale Django-Nginx backend and frontend developed from scratch for the FMH Media Lab. The website is running and available at `https://www.fmhmedialab.sydney.edu.au`. This project uses a Django backend and has taught me valuable full-stack web development skills including route management, security practices and cachining frameworks through memcached.

FMH Lab OBJ-HTML Converter (2022)   As a result of my work with the Medical Faculty I was able to develop a GUI application that successfully generates HTML files for object (OBJ), material (MTL) and texture (PNG/JPG/etc) files. This automatically interacts with the Canvas LMS API and uploads the files so that the user is able to solely interact with the GUI application.

FSA Lab Website (2022)   This website was a project I undertook for the research group to showcase our work which incorporated and built upon my web-development skills. The website is running and available at `https://www.fsa-lab.org/`.

Thesis Project - Bayesian Neural Networks (2021)   My undergraduate thesis was a significant and intense undertaking that required me to adapt and understand from new fields of academia. Through joint work with one of the our research groups colleagues, we have developed an interesting solution to current issues proposed by Bayesian neural networks and helped accelerate them through sparse transformations.

Raspberry Pi Syncthing and Pi-hole Server (2021)   This was a very engaging project that helped allow me to understand the intricacy of networking and the general operation and management of servers. With a syncthing docker setup I was able to backup and save files remotely which was very rewarding.

TimeWaster (2020) (HTML, CSS, JS)   Browser add-on that will track usage and store time on hosts across days, weeks and months. Includes the ability to add timeouts to certain hosts as well as view analysis on usage.

In the future hopefully more integrated features such as individual site analysis and recommendations will be implemented into the extension.

Techlab Website (2019) (HTML, CSS, JS, Python)   Project for computer science to develop a website in a team for the Techlab department of the University of Sydney. This website was built using the usual React, HTML, CSS as well as a Django Python backend. It was a very enjoyable experience and was essential for the development of my web development skills and interest in it.

Achievements

Invitation into Dalyell Scholarship   Awarded due to academic performance through my degree within the Degree of Advanced Computing. It was a pleasure to receive and motivated me to perform better in future semesters.

Honours Class I