

# Curriculum Vitae

Adam Ghanem  
<https://adamghanem.com>

## Curriculum Vitae

### 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
<b>University of Sydney</b> Bachelor of Mechatronics Engineering Bachelor of Information Technology Bachelor of Advanced Computing Masters of Philosophy (Engineering)	<b>Feb 2017 - July 2017</b> <b>July 2017-2018</b> <b>2018-2021</b> <b>2022-2023</b>

## Work Experience

Year	Experience	Comments
2017 - 2019	<b>Mathematics tutoring</b>	Really interested in mathematics so being able to translate my interest in it to teaching was an enjoyable experience.
2019 - Current	<b>University Tutor at the University of Sydney.</b>	Units taught included: <ul style="list-style-type: none"> <li>• Teaching Assistant for Managing and Analysing Data with SQL (OLET1301)</li> <li>• Introduction to Programming (INFO1110)</li> <li>• Introduction to IT Professionalism (INFO1111),</li> <li>• Object Oriented Programming (INFO1113)</li> <li>• Software Construction and Design 2 (SOFT3202)</li> <li>• Software Concurrency (Soft3410)</li> <li>• Marker for Software Construction and Design (SOFT2201)</li> </ul>
2020 - 2021	<b>Summer Research Scholarship</b>	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 - 2023	<b>Research Assistant</b>	Research assistant as System Machine Learning laboratory at FSA (Future System Architecture) <a href="https://fsa-lab.org">https://fsa-lab.org</a> .
2022 -	<b>Unity and AI Developer</b>	Unity engine and AI developer at the University of Sydney for the FMH (Faculty of Medicine and Health) Media Lab.

## Research Topics

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

## Projects and Conferences

**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>.

**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**