

Matthias Ong

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SUMMARY

Master of IT student at The University of Melbourne looking for a summer internship role. Completed 1 year internships as an AI Project and software engineering intern. Deep passion and curiosity for AI, Cloud and software engineering. Possess strong technical and interpersonal skills.

SKILLS

Python (Pandas, Scikit, Matplotlib, etc), Java, C, C++, JavaScript, TypeScript, SQL, HTML, CSS (Bootstrap), Git, Artificial Intelligence, Machine Learning, Statistical Machine Learning, Big Data, Agile methodologies, SDLC, React, MySQL, Distributed Systems, HPC, Cloud Computing, Docker, Containerisation, AWS, Firebase, Kubernetes, Serverless, etc

EDUCATION

Master of Information Technology (Artificial Intelligence)

Jul, 2024 - Present

The University of Melbourne

- Current WAM: 87%
- Engineering and IT Graduate Scholarship, offered to talented students in Engineering or Information Technology
- FEIT Hackathon Festival 2024 Runner-up, won a \$3000 prize for EcoQuest, a platform designed to encourage sustainability
- Relevant Coursework: SDLC, Cloud Computing, Artificial Intelligence, Machine Learning, Statistical Machine Learning, Database Systems, Distributed Systems

Bachelor of Science in Computer Science

Sep, 2020 - Apr, 2024

Singapore Institute of Technology, Joint-degree with Digipen Institute of Technology

- GPA: 4.55/5 (Honours with Highest Distinction)
- SiTizen Ambassador - Student Leadership under Community Leadership And Social Innovation Centre
- Teaching Assistant - Taught students CSD2160 Operating Systems and CSD2181 Data Structures, conducted weekly consultations and grading
- Overseas Immersion Programme - Completed 12 weeks of study in Redmond, WA, USA
- Relevant Coursework: Calculus, Linear Algebra, Computer Networks, Game Development, Computer Graphics, C++ Design Patterns, Operating Systems

EXPERIENCE

AI Project Intern

Aug, 2023 - Apr, 2024

DSO National Laboratories, Singapore

- Built a reinforcement learning (RL) simulation network environment to test cybersecurity network configurations with RL AI agents, leverage Microsoft's CyberBattleSim, OpenAI Gym, Python
- Simulated a Windows Active Directory network, Microsoft servers, Sharepoint, Exchange, file server, etc
- Trained and evaluated reinforcement learning attacker agents based on MITRE to model 2 real-world attackers
- Analysed attacks results and performed data visualisation to report findings to supervisor

Software Engineer Intern

May, 2023 - Aug, 2023

Ministry of Home Affairs, Singapore

- Developed an internal full-stack cross-platform application (iOS, Android, Web) leveraging HTML, CSS, TypeScript, React, Ionic Framework and Google Cloud Firebase and more to improve quality of life of officers
- Researched and prototyped a custom AI-powered app on internal datasets with LangChain, Azure OpenAI API and Python for future organisational use

PROJECTS

FEIT Hackathon Festival 2024 Runner-up

Sep, 2024 - Sep, 2024

3-day hackathon in Team of 5, Team GReeeN

- Won a \$3000 prize out of 35 teams, EcoQuest, a platform designed to encourage sustainable actions among hotels, investors and guests through transparency and gamification
- Proposed an app utilising utilities consumption analytics, generative AI prompts for gamified sustainability challenges
- Brainstormed idea, feasibility, technical requirements and made 15+ UI/UX wireframes on Figma to pitch to panel
- Achieved the "Greatest Social Impact" Airwallex Hardware Prize Winner
- Achieved the "Best Team Synergy" Telstra Hardware Prize Winner
- Achieved Melbourne Plus: Sustainability Advocacy

Linux Home Server

May, 2024 - Jun, 2024

Solo IT Management Project, Self-hosted home server

- Hosted web server, DNS server, Network File Storage Server on an old laptop. IT management with installations, user access control
- Utilised open-source technologies Ubuntu, Samba, MySQL, Apache web server, Wordpress and more

AllyAlley

Apr, 2024 - Apr, 2024

Solo Full stack Project, Flask Social Media Web Application

- Added user authentication, uploading, deleting, commenting, liking photo and video posts
- Made with Flask, HTML, CSS w/ Bootstrap, JavaScript, Python, AJAX, SQLite, hosted on PythonAnywhere

MovieCompanion

Mar, 2023 - Mar, 2023

Solo Machine Learning Project, Custom Python Hybrid Movie Recommender

- Performed data cleaning and processing on the MovieLens dataset, metadata from over 45,000 movies
- Implemented, evaluated and tested hybrid ML algorithm (Content-based + Collaborative filtering)

CaptainJumperBoy

Feb, 2023 - Feb, 2023

Team of 5, 2D Mobile Platform Game in Kotlin for Android

- Implemented SQLite local database using Android Room to store high scores
- Programmed Physics, gameplay features, helped to use accelerometer, touch sensors for game controls
- Designed Android architecture components, Coroutines and LiveData

Iconoclasm

Apr, 2022 - Apr, 2023

Team of 10 designers and programmers, Custom C++, 3D Game Engine and 3D RPG Hack and Slash Game

- Adopted Agile methodology with Scrum framework, included weekly sprints
- Integrated engine with PhysX, created bounding models, 3D Physics programming
- Programmed graphics with Freetype Font library & OpenGL, engine debugging