

John Ling

johnlingbusiness@gmail.com | johnling.me | github.com/John-Ling | linkedin.com/in/john-ling-721721243 | Melbourne, Australia

Education and Qualifications

2024 – 2027 University of Melbourne, Australia | BSc Computing and Software Systems

2017 – 2023 Garden International School, Malaysia

A Levels 2023

Mathematics: A*

Computer Science: A*

Physics: A

IGCSEs 2021

Physics: A*

Mathematics: A*

History: A*

Chemistry: A*

Music: A*

Biology: A*

English Literature: A*

English Language: A*

Computer Science: A*

2022 CS50's Introduction to Computer Science

2023 CS50-AI's Introduction to Artificial Intelligence

Work Experience

November – December 2023 **AmBank Group**, Data and Digitalisation Intern

- Built a **RAG + LLM system** in 9 days that allowed users to **receive tailored financial advice** and compare over **1000 Malaysian companies** for investing. Users could converse with the model and ask for further clarification on specific details of its responses. Built using React, MySQL and Flask. Learned a lot about RAG systems, LLMS and vector databases.
- Developed a **Work-From-Home reservation web app** for employees in the Digitalisation department to request to work from home and **allowed managers to approve or reject requests**.

October – November 2023 **AmBank Group**, Cybersecurity Intern

- Briefly **worked alongside L1 SOC** analysts at AmBank Group, a bank affiliated with **ANZ**, where I handled alerts from the bank's SIEM platform.
- Was present for a **cybersecurity drill** in the bank and saw how the technical and management team handle a ransomware attack.
- Found and **reported a weakness** in the company's data leakage prevention system that could be used in a possible data exfiltration.
- Learned more about penetration testing and went through previous tests with AmBank's VAPT team.
- Independently studied penetration testing** through sites such as RootMe and HackTheBox. Learned about basic pentesting techniques such as SQL injection and HTTP interception with the Burp Suite. I **learned about weaknesses of modern web technologies** such as GraphQL and JSON web tokens.

June – July 2022 **AmBank Group**, IT Intern

- Got a high level view of the general operations within the bank such as the inner workings of their **SIEM system**, their general networking structure and their disaster recovery procedures.
- Learned good practices for servers that I would implement in my own server such as least-privilege access, **SSH hardening** and automated **backups using LVM**.
- Developed communication and networking skills from conversing with individuals at various ranks in the company

Languages and Tools

Languages: Python, Javascript (React, Node and Vanilla), C, C#

Tools: DigitalOcean, Docker, Firebase, NGINX

Top Projects

- Pseudocode Compiler:** A complete transpiler built using C++ that takes files containing a made up "pseudocode" language and converts it to Python. Uses a handmade lexer, **recursive descent parser** and code generator. The compiler also performs **semantic analysis** to find undeclared variables and has type checking.
- johnling.me:** My personal portfolio website where more details about me and my projects can be found. Built using Bootstrap, Sass and Javascript.
- Cameraman:** A **camera that follows you in real-time**. Electronics project that used Python with **OpenCV** to perform **live face detection** using a **Caffe model**. Coordinates of the face are sent to a standalone ATmega328p microcontroller that uses motors to adjust a camera to the position. **Device was deployed within my school class** to improve the hybrid teaching experience.
- Trello Tabliss Integration:** Forked the Tabliss browser extension and added my own modifications to **pull data from my Trello board** and display it conveniently in the browser homepage. Trello module was written in **React** and used **Firebase with NodeJS** to handle the API calls to Trello.

Other Projects

- wikihopper.johnling.me:** React web game that uses the wikipedia API two random wikipedia pages and gives the user 10 links or hops to go from point A to B.
- Desktop Kahoot Bot:** C# desktop application that uses Selenium to simulate virtual kahoot players. Give the bot a room code, the number of bots and their name and the application will create virtual players.
- CS Fundamentals:** Various C and Python implementations of fundamental data structures such as Linked lists, hash tables and trees along with algorithms such as binary search or Dijkstra's algorithm.
- Covid Companion:** Tkinter based desktop app that used Wit AI NLP to determine intent of a user's question about COVID-19 such as statistics and myths. The application would use BeautifulSoup to gather data from the worldmeter website to present to the user.
- Arduino RFID Lock:** Used a standalone ATmega328p along with an RFID reader to create a battery operated door lock. Used open source library Minicore along with a USBASP programmer to reduce clock speed and brownout voltage so battery power was feasible.