HOSEA TONG-HO

SOFTWARE ENGINEERING STUDENT

CONTACT

+64-21-089-18472

tonghoanh2005@gmail.com

https://hoseatongho.com

https://www.linkedin.com/in/hosea-tong-ho-47b468252/

https://github.com/SirBillyBobJoe

SKILLS

Languages:

- Java
- Python
- C
- C++
- C#
- TypeScript
- JavaScript
- MATLAB
- R Programming Language

Tools and Frameworks:

- Firebase
- Google Cloud
- MongoDB
- Docker
- Node.js
- React.js
- Express.js
- Git
- Qt
- HTML
- CSS

EDUCATION

University Of Auckland

Software Engineering
Bachelor of Engineering (Honours)

2022-2025

ACHIEVEMENTS

GPA: 9.0/9.0 (A+ Average)

Top In Course:

- Object-Oriented Programming (2023)
- Electrical and Digital Systems (2022)
- Materials Science (2022)
- Engineering Computation and Software Development (2022)

Dean's Honours List:

- 2022
- 2023

PROFILE

- Penultimate software engineering student at the University of Auckland.
- Passionate about technology and eager to contribute my skills and knowledge to meaningful projects.
- Aim to develop innovative solutions that have a real-world impact and change people's lives.
- Always seeking challenges and love solving difficult problems.
- Able to learn quickly, think on my feet and maintain a strong work ethic.
- Believe that any goal is achievable with the right mindset, determination and perseverance.

WORK EXPERIENCE

Full Stack Developer Intern | November 2023 - February 2024

The NZPMC Ltd.

- Worked in a team of 8 developers to improve the NZPMC website's registration page that hosts annual academic competitions for thousands of students across New Zealand.
- Improved many critical customer issues, including challenges in bank transfer payments and a lack of communication with customers.
- Resolved this issue by implementing a secure credit card payment system with the Stripe framework and improving the automatic emailing system with the SendGrid API.

Software Engineer Intern | May 2023 - September 2023

RisosEnterprises Ltd.

- Worked on researching and developing a consumer electronics device designed for onsite water microbe detection, achieving 95% accuracy and eliminating reliance on lab-based analysis.
- Solely developed a microscope camera application to enhance microbe identification.
- Identified inefficiencies in existing manual data transfer processes.
- Designed and implemented an automated data transfer system using MongoDB, enhancing the synchronisation of real-time data from the water microbe detection device to a central database.

PROJECTS

Escape Room Game | Java, JavaFX

- Led a team of 3 developers in creating an escape room game, challenging players to solve puzzles, riddles and mini-games.
- Guided the team through problem-solving and development stages.
- Integrated the OpenAI API to utilise GPT technology, enabling it to guide the players throughout the game.
- Addressed various challenges, such as handling latency and response time of OpenAI API Calls.
- Resolved latency issues by implementing asynchronous API calls and caching frequently requested data, reducing the average latency by 2 seconds.

Raspberry Pi Microscope Camera | C++, Qt

- Developed an image capture and manipulation tool with various camera control and zoom capabilities.
- Designed an intuitive user interface for easy navigation and image adjustment.
- Addressed various challenges, including touch gesture recognition and performance bottlenecks in the Python-based application on a Raspberry Pi at high resolutions.
- Resolved performance issues by migrating the application to C++ and cross-compiling it to a Raspberry Pi.
- Implemented touch gesture recognition using vector mathematics to interpret and respond to user gestures accurately.

Video Streaming Platform | React.js, Next.js, Express.js, Typescript, Google Cloud, Firebase

- Designed and implemented a video streaming platform, ensuring efficient processing and conversion of uploaded videos to varying video quality.
- Integrated a user-friendly search bar with the Algolia API, enabling autocomplete for easy navigation and retrieval of video content.
- Created a secure user authentication system, restricting video upload privileges only to registered users.
- Addressed many challenges, including the lengthy time from upload to viewability.
- Halved the duration from upload to viewability by strategically deploying lower-resolution videos first, then progressively updating the videos with higher-resolution versions.