

# Alan Yang

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## Education

### McGill University

Aug 2023 – Feb 2025

- Master of Science in Computer Science – GPA: 3.92/4.0
- Focus on Machine Learning, Large Language Models, and Natural Language Processing.

### City University of Hong Kong

Sept 2018 – Jun 2022

- Bachelor of Engineering (Hons) in Information Engineering - GPA: 3.83/4.30 (Rank: 2/80)
- First Class Honors Graduate, Dean's List (4 semesters), Honorary Mention in FYP competition.
- Merit Prize at the 8th HK Innovation & Entrepreneurship Competition; HKSAR Outstanding Scholarship (2020-2022)

## Work Experience

### Software Engineer | Lalamove

Jun 2022 - Jul 2023

- Developed and maintained a delivery service app across 20+ markets, contributing to UX design and developing key features (e.g. placing orders, driver assignment, pickup coordination) to enhance user experience.
- Work in Android Driver App development and collaborate with QA Engineers and Designers in Agile Scrum using Jira.
- Led unit tests and apply MVVM architecture and design patterns to ensure code quality, reducing app crashes by 30%.

### Full Stack Developer | Solos Technology Limited

Sept 2021 – May 2022

- Built and deployed the sports smart eyeglasses mobile app using Ionic Framework and Android SDK.
- Implemented a CNN model for motion detection using the IMU sensor with 90% accuracy. Developed an EQ calibration feature showcased at CES 2021 to personalize the music quality of the eyeglasses through a hearing test.

### IT Intern | Orient Overseas Container Line Limited

April 2021 – Sep 2021

- Worked in Agile and created a Data Comparator for an EDI migration project. Built a web portal for database security management with the Dynamic Password Switching Module.

## Project Experience

### Large Language Model Study - BotOrNot

[github.com/alan5543/BotOrNot](https://github.com/alan5543/BotOrNot)

- Investigate the possibility of the language model being social media bots and detectors.
- Trained a 3.8B bot to generate tweets by input topic with instruction tuning and RAG. Against GPT-4 as the detector, our bot outperformed a 14B model with 6x higher deception, better creativity, and fewer hallucinations, showcasing the potential of SLM in social media applications.

### Large Language Model Study - FLAN-Phi-2

[github.com/alan5543/phi-2-tuning](https://github.com/alan5543/phi-2-tuning)

- Applied LLMs optimization techniques (instruction and symbol tuning) to a smaller model (Phi-2 2.7B) using QLoRA.
- The FLAN model outperforms the base model by 40%, matching Mistral-7B-Instruct in benchmarks like in-context learning, flipped labels, and algorithm logic, with a model one-third the size and fewer tuning steps.

### Large Language Model Study - TinyReview

[github.com/alan5543/tinyReview](https://github.com/alan5543/tinyReview)

- Transformed 27 million raw reviews into a refined corpus of 1 million entries, enabling GPT-Neo models to generate coherent sentences within hours of training on a V100 GPU, and evaluated the models against GPT-3.5, achieving comparable performance in consistency, creativity, and grammatical accuracy.

### Web Development - McGill UAsk

[youtu.be/bel31lMmFdE](https://youtu.be/bel31lMmFdE)

- Designed and developed a Slack-like student discussion forum using the MERN stack (React.js and RESTful API), facilitating interaction between students, tutors, and professors.
- Key features includes OAuth 2.0 user authentication, course management, discussion threads, and real-time notifications. Integrated light/dark mode and responsive UI to ensure seamless usability.

## Technical Skills and Achievements

**Software Development:** React, Express.js, Node.js, Next.js, Ionic, Angular, Flask, Java, JavaScript, Android Kotlin

**Machine Learning:** Python, PyTorch, Scikit-learn, Numpy, Pandas, OpenAI, HuggingFace, NLTK, Neural Networks

**DevOps and Cloud:** Agile, Jira, Git, MySQL, MongoDB, AWS, GitLab CI/CD, Firebase, Docker, Linux, Postman