

# TOH MING CHUN

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## Skills and Proficiencies

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**Languages:** Python, C, C++, HTML, CSS, Verilog, SQL, Javascript, Java

**Libraries/Frameworks:** React, NextJS, Django, python-telegram-bot, TailwindCSS, Framer Motion, Zod, Astro, Typescript, Prisma ORM, Jest, Cypress

**Tools/skills:** AWS EC2, S3 + Cloudfront, Git, Github Actions, LaTeX, Lumerical FDTD, Microcontroller bare-metal programming, CI/CD, unit testing, E2E testing

## Experience

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### TripFlow

AUG 2023 – PRESENT

- Worked on Tripflow, an intelligent itinerary planner that optimises travelling itineraries and recalibrates plans on the go.
- Developed frontend side of the mobile application.
- Led integration of backend and frontend, particular in making the entire application more type-safe.

### NUS Orbital Artemis

APR – AUG 2023

- Developed StudyStash, a web application which serves as a database for exam resources, where users can share cheatsheets, notes, past papers and solutions to aid others in revision.
- Developed both frontend and backend sides, as well as making infrastructure decisions. Technologies used include NextJS, Prisma ORM, PlanetScale SQL database and Google OAuth, as well as AWS S3 and Cloudfront.
- Employed numerous software engineering principles, including CI/CD with Github Actions, unit testing with Jest and end-to-end testing with Cypress.

### Lifhack 2023 hackathon

JUN 2023

- Developed a gamified travel planning and tracking app, which allows users to complete “quests” and earn points when going on holidays to support the tourism industry.
- Developed both frontend and backend sides. Technologies used included NextJS, Prisma ORM, PlanetScale SQL database and Google OAuth.
- Placed among top 15 teams.

### Expense tracker

JAN – MAR 2023

- Utilised python-telegram-bot library alongside python web framework Django, PostgreSQL database and Bootstrap framework to create a telegram bot @spendlessmoneybot, which records expenses, that is viewed on a Django web application.

### Mahjong Counter Telegram bot

DEC 2022

- Developed a telegram bot @mahjongcounterbot with python-telegram-bot library which can count points and payouts for the game of mahjong.
- Hosted bot on an AWS EC2 instance.

### Codesprint PSA 2022 hackathon

SEP 2022 – OCT 2022

- Developed backend side, utilizing python web framework Django to code a full stack web app, which introduces a gamified platform with socializing elements added to a traditional platform for planning work and tasks in the workplace.
- Placed among top 15 teams.

**code\_exp 2022 hackathon**

JUN 2022

- Developed a telegram chatbot with python-telegram-bot library, which includes multiple features to ensure mental wellbeing of National Service personnel.
- Utilised Google's DialogFlow, as well as a Flask webapp and a SQLite database.

**Robotics**

JUL - DEC 2019

- Utilised VEX robotics integrated with LEGO EV3 to create a robot which would lift an 18-inch tablet to eye level and autonomously navigate the school's lab, displaying relevant information and videos based on experiment setups showcased across the lab, during events such as exchange visits and open house.

**Plasmonic research**

JUL 2019 – NOW

- Wrote and published a research paper in collaboration with A\*STAR Institute of High Performance Computing in journal SN Applied Sciences, where charge distribution profiles on plasmonic nanoparticles were used to predict induced optical torque.
- Presented my work at a poster during an international conference (International Conference on Materials for Advanced Technologies 2019).
- Working on a related project currently and applying for publication.

**Education**

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**Computer Engineering, National University of Singapore**

JUL 2022 – MAY 2025

- Current CAP of 4.95/5, with 84 units out of 160 completed.
- Taking an accelerated curriculum to graduate within 3 years under scholars programme.
- Teaching Assistant for CG1111A, Engineering Principles and Practices I.

**High Distinction, NUS High School of Math and Science**

JAN 2014 – DEC 2019

- Graduation CAP of 4.8/5.0.
- Major with Honours in Math and Physics, Major in Chemistry.