Cervon Wong

Year 6 student at NUS High School of Math and Science
Majors: Math, Biology, Chemistry, Physics
Honours: Computer Engineering
CAP (GPA): 4.9 / 5.0 (2022)

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Experience

Software Engineering Intern @ DSTA (May - Jun 2022)

- Spearheaded integration of a drone trajectory optimisation framework into internal simulation engines by analysing data flow and interfaces.
- Researched and distilled latest research papers on drone exploration and trajectory planning.

Projects

Research project on skin microbiome of children with atopic dermatitis (Mar - Dec 2022)

- Conducted comprehensive data analysis using R and uncovered statistically significant findings on the quantitative and qualitative characteristics of the skin microbiome of atopic dermatitis.
- Independently reviewed current literature and develop novel research aim, to benefit the prognosis and treatment of the 20.6% of children locally affected by atopic dermatitis.

Web app that enabled chefs with mild intellectual disability to learn work skills independently (Jul 2021 - Jan 2022)

- Collaborated closely with instructors, identified key issues that trainees and instructors face.
- Innovated accessibility features to enhance ease of use and intuitiveness of the web app.
  - Integrated informative images and text-to-speech buttons to aid illiterate trainees.
- Architected back-end services model and coded front-end app using Flutter from scratch.
- Deployed app to trainees and hosted a public demo (https://mint-def9e.web.app/#demo).

Machine learning model that monitors foreign ships near Singapore (Jun 2021)

- Optimised convolutional neural network layers to improve recognition accuracy by 50%.

Algorithmic flashcard scheduling app for learning retention (Jan 2019 - Jun 2021)

- Developed and connected SQL database to keep track of users' learning data over time.
- Implemented AI that utilises users' learning data to optimise personalised learning schedules.

Awards & Achievements

GOLD - Singapore Biology Olympiad (Jan 2023)

FINALIST - Tech for Good Innovation Challenge 2021 (Nov 2021)

- Entered the finals of a national university-level six-month engineering contest.
- Collaborated with two students, innovated software to tackle a real-life accessibility issue.
- Implemented and presented minimum viable product of the app at the festival.

CHAMPION - YDSP Science and Tech Camp (AI using Satellite Images) (Jun 2021)

- Developed a machine learning model that can bolster nation's maritime security in a team.
- Represented NUS High School and emerged champion against 13 other IP schools.

Best in Computer Studies - NUS High School Subject Book Prize (Mar 2019)

Technical Skills

Software development: Flutter, Java, C/C++, HTML/CSS/JS/TS, Firebase Cloud Firestore, SQL
Machine Learning: R, Python, NumPy, Pandas, TensorFlow
Tools & Environments: Git & GitHub, VSCode, IntelliJ, Jupyter, Linux (Subsystem for Windows)