Cervon Wong

Year 6 student at NUS High School of Math and Science
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Education

Majors in Math, Physics, Biology, Chemistry @ NUS High School (2018 - 2023)

- CAP (GPA): 4.9 / 5.0

Honours in Computer Engineering @ National University of Singapore (2022 - 2023)

- Designed and built robotic vehicle enabling odometry, laser imaging, serial wireless communications, and remote controlling using ROS, Arduino, Raspberry Pi, and C++.

Experience

Software Engineering Intern @ DSTA – Skills: Robotics, Simulation, Linux (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.

Research Intern @ A*STAR – Skills: Statistical data analytics (Mar - Dec 2022)

- Conducted comprehensive analysis using R and uncovered novel findings from metagenome of 373 skin microbes associated with atopic dermatitis from skin samples of 80+ Singaporean children.

Projects

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

- Collaborated closely with chef instructors, identified key issues that trainees and instructors face.
- Architected back-end services model and coded front-end app using Flutter from scratch.
- 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.
- Deployed app to trainees and hosted a public demo at an expo.

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

CHAMPION - SUTD Research Hackathon (Mar 2023)

- Performed numerical analysis methods with parallel programming on cellular automata with Julia.

SILVER – Singapore Science and Engineering Fair (For A*STAR Research Project) (Mar 2023)

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

- National university-level six-month engineering contest to tackle a real-life accessibility issue.
- Implemented and presented minimum viable product to public.

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

- Developed a convolutional neural network that recognises ships near Singapore waters for security.

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: Python, NumPy, Pandas, TensorFlow, R
Tools & Environments: Git & GitHub, VSCode, IntelliJ, Jupyter, Linux (Subsystem for Windows)