Cervon Wong

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

Majors in Math, Biology, Physics, Chemistry @ NUS High School (2018 - 2023)
- CAP (GPA): 4.9 / 5.0

Honours in Computer Engineering @ National University of Singapore (Aug 2022 - Apr 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 (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 on skin microbiome of children with atopic dermatitis @ A*STAR (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.

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