Chen, Yanlin

Availability: 12 May 2025 - 22 Aug 2025

yanlinc2@andrew.cmu.edu

GitHub Profile: github.com/yl10016/

Education

•Carnegie Mellon University (Sophomore) *Aug 2023 - May 2026*

B.S. in Computer Science with Additional Major/Minor in Mathematics QPA: 4.00/4.00

•NUS High School of Math and Science *Jan 2017 - Dec 2022*

Honors in Mathematics and Physics, Majors in Chemistry and Biology CAP: 4.94/5.00

Experience

•Chamanzar Group, Carnegie Mellon University *Sept 2024 - Present*

– Design and fabricate SiC-based quantum photonic devices that utilize optical detection methods and the Zeeman effect to detect weak magnetic fields generated by neural activity

•IBM Qiskit Global Summer School 2024 *July 2024*

•Institute of High Performance Computing, A*STAR *May 2024 - July 2024*

– Worked under Dr. Jayne Thompson to use the Parameter Shift Rule (PSR) to perform Zero Noise Extrapolation (ZNE) without increasing circuit depth
– Built and ran circuits in Qiskit to experimentally verify if PSR ZNE outperforms the traditional ZNE

•Institute of High Performance Computing, A*STAR *Dec 2022 - June 2023*

– Developed python-based platform (link) to analyze user data for Ang et al.'s path-drawing option generation task, enabling objective quantification of creativity without cultural bias
– Implemented platform in a cognitive study to derive uniqueness and diversity scores for each participant
– Obtained **technology disclosure** and currently in the process of manuscript submission for publication

•National University of Singapore, Yong Loo Lin School of Medicine *Aug 2021 - Aug 2022*

– Conceived and initiated project to synthesize biocompatible annuloplasty rings demonstrating the Shape Memory Effect for minimally invasive surgeries; learnt and practised suturing techniques on swine hearts

•Physics Instructor at NUS High School of Math and Science *2021 - 2023*

– Trained a selective group of students in preparation for national physics research tournaments: coached students in physics, mathematical modelling, programming, electronic circuit and mechanical setup construction and design
– Taught participants Mathematica and Computational Fluid Dynamics software such as COMSOL and Ansys

Clubs and Projects

•Computer Systems and Programs *Aug 2024 - Present*

– Developed a proxy (compatible with Mozilla Firefox), shell (back/foreground job control and I/O redirection), malloc (best fit with segregated lists), and cache (LRU) simulator totaling around 3000 lines

•Blockchain Club *Aug 2023 - Present*

– Implemented a smart contract to calculate the interest rate for a variable lending pool (that takes in ETH and lend a stable coin to users), as well as the frontend user authentication

•Carnegie Mellon Racing Club *Aug 2023 - May 2024*

– Modelled and tested 3-point bend Ansys simulation to better optimize car chasis

•Journal Publication *Nov 2019 - Aug 2021*

– Conducted original research on the use of Shape Memory Alloys in thermal engines, published paper titled, "Micro-mechanical analysis of shape memory based engines" in peer-reviewed journal Appl. Phys. A. (link)

Technical Skills

Fluent: Assembly, C, Standard ML, Python, Qiskit, Mathematica, COMSOL Multiphysics, MATLAB
Basic Knowledge of: Web 2, Web 3, Solidity, Java, JavaScript, Julia, ANSYS

Achievements

•Recipient of Lee Kuan Yew Award for Mathematics and Science *2021*

Awarded to less than 50 students across all of Singapore

•Gold/Champion at (Online) International Young Physicist Tournament *2020, 2021*

Member of Singapore's national team at international research-focused competition