Chen, Yanlin

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GitHub Profile: github.com/yl10016/

Education

•Carnegie Mellon University *Aug 2023 - May 2027*

B.S. in Computer Science with Minor in Mathematics QPA: 3.9/4.0

Experience

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

– Co-designed microwave antenna component and contributed to optimizing the Optically Detected Magnetic Resonance (ODMR) readout methodology in the fabrication of SiC-based quantum photonic devices that utilize optical detection methods and the Zeeman effect to detect weak magnetic fields generated by neural activity

•Network Product (SWE) Intern, Cisco, San Jose *May 2025 - Aug 2025*

– Developed AI-driven, **remotely hosted** and **Dockerized Flask application** to automate bug triage and root cause analysis (RCA) by retrieving and correlating cluster, device, and codebase data using **LangChain agents** enhanced with API/CLI tools, MCP servers, local regex search, and token usage tracking (and general traces monitoring) via **Langfuse**
– Integrated the solution as a **VSCode extension** to enable Copilot-powered, inline code fix suggestions directly within the developer workflow, and implemented fast similarity search of existing CDETS bugs using a Milvus vector database with TF-IDF and cosine matching to surface relevant existing issues

•Jane Street INSIGHT Program *Jan 2025*

– One of 30 participants selected for SWE track; built a trading algorithm (in Python) and traded in a virtual exchange

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

– Built and ran circuits in Qiskit to develop and evaluate a zero-noise extrapolation (ZNE) approach using the Parameter Shift Rule (PSR), to perform error mitigation without increasing the circuit depth

•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 **published** in Scandinavian Journal of Psychology (doi.org/10.1111/sjop.13112)

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

– Trained a select 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

•Distributed Systems (in Go) *Sept 2025 - Present*

– Implemented the Raft consensus algorithm, a replicated state machine protocol that serves as an alternative to Paxos
– Built a custom reliable transport protocol (Live Sequence Protocol) on top of UDP that leveraged goroutines and sliding-window mechanisms to ensure ordered delivery, integrity checks, exponential backoff retransmissions, and fault-tolerant client–server coordination for parallel hashing tasks (used in a distributed bitcoin miner scenario)

•Computer Systems and Programs (in C) *Aug 2024 - Dec 2024*

– 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 4000 lines

•Micro-mechanical analysis of shape memory based engines *Nov 2019 - Aug 2021*

– Conducted original research **published** in peer-reviewed journal Appl. Phys. A. (doi.org/10.1007/s00339-021-04810-4)

Technical Skills

Fluent: GoLang, Python, C, Standard ML, Unix, Assembly, OCaml, Qiskit, Mathematica
Basic Knowledge of: Web 2, Web 3, Solidity, Java, JavaScript, Julia

Achievements

•CMU MSCF (Master of Science in Computational Finance) Datathon *2025*

Trained an AI trading bot on institutional financial data, ranking #4 overall and #2 in Pittsburgh across 18 active teams

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

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