Shion Fukuzawa

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SKILLS Python, Jupyter, C++, SQL, JavaScript, Git, HTML & CSS, Data Analysis, Machine Learning, Quantum Computing, Mathematics, Algorithms + DS, Research , Web Development

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EDUCATION

PhD in Computer Science, University of California, Irvine Jun 2025

Research – Algorithms (Computational geometry, Quantum Algorithms)

Coursework – includes Machine Learning, Deep Generative Models, Algorithmic Game Theory, Quantum Computing, Computational Geometry

QC@UCI – Board member of UC Irvine's quantum computing club. Organized and led weekly sessions to discuss research in quantum computing, as well as designed and implemented QC projects for the team to work on. Previous projects include a Hamiltonian simulation for simple molecules.

BS in Mathematics, Calvin University May 2020

Research – Computational Topology (Algorithm for converting between the representation of two knot classes)

Coursework – Real Analysis, Abstract Algebra, Differential Geometry, Probability and Statistics, Algorithms and Data Structures

Problem Solving Club – Leader of problem solving club. Competed and earned medals in mathematics and programming competitions. Designed, organized, and led training sessions to teach useful problem-solving and proof techniques leading to high performance in multiple competitions.

EMPLOYMENT HISTORY

Quantum Computing Research Intern, qBraid Jun 2022 – Sep 2022

- Conducted research in QC algorithms, application-based benchmarking, and quantum computing frameworks
- Contributed to user account webpage using the MERN stack and AWS integrations.
- Added support for automated unit testing with Cypress and quality control (linting etc.) through Github actions.

Graduate Assistant, UC Irvine Sep 2020 – Present

Coordinated with professors to help teach, evaluate, and enhance student learning each quarter. Assisted instruction of courses including introduction to data structures, advanced algorithms, and introduction to C++. Developed software in Python and C++ to automate grading for engineering projects, reducing the grading load which led to better availability of instructors for courses with hundreds of students.

LAMP Stack Instructor, Iki Commercial Highschool Jul 2020 – May 2021

Designed a year-long curriculum and instructed four Japanese high school students with no programming experience to learn HTML, CSS, and JavaScript then create a full-stack website using Linux, Apache, MySQL and PHP.

Student Web Communications Developer, Calvin University Oct 2016 – May 2017

Curated and edited quality visual media for Calvin University's website. Updated and maintained Calvin's student portal as well as over ten different department pages using HTML, CSS, and JavaScript.

PROJECTS

Cassava Disease Detection Python, PyTorch, Computer Vision | Created a lightweight mobile-friendly image classifier to detect whether a given Cassava plant has one of four common diseases or is healthy.

Hyperdimensional Encryption Python, Hyperdimensional Computing, Brain-Inspired Systems | Analyzed robustness, efficiency and accuracy of brain-inspired data encryption models.