

CHRISTOPHER KANG

ck32@uw.edu • in/christopher-kang/

EDUCATION

University of Washington, Seattle

Triple major in Computer Science, Economics, and Mathematics with Honors

On a merit-based full tuition scholarship

Spring 2022
GPA: 3.97 / 4.0

Completed Coursework

Data Structures and Algorithms (CSE332), Graduate Quantum Computing (CSE599),
Honors Advanced Multivariable Calculus (MATH33X)

Programming Languages: Python, C++, C#, Java, Q#, Git, Bash

WORK EXPERIENCE

Pacific Northwest National Laboratory

High Performance Computing Intern

Richland, WA
Summer 2020-present

- Implemented a full-state quantum simulation algorithm in Python and C++.
- 100x+ improvement in memory consumption with custom implementation of chemistry simulations. The limiting factor in simulations is memory; reductions enable studies of more complex molecules
- Parallelized C++ code with OpenMP, yielding a 5x+ speedup in time cost of simulation.
- Studied existing research papers and communicated results with mentor to identify next steps.

High Performance Computing Intern

Summer 2019

- Designed and implemented an end-to-end software pipeline to optimize quantum chemistry simulations.
- 80% reduction in compute time for simulations by designing a custom JSON format to store chemical data.
- These chemistry simulations are critical for drug design, material analysis, and chemical engineering. The pipeline reduces requirements for quantum hardware, enabling sooner real-world implementation.

Computer Science & Engineering K12 Outreach

Outreach Ambassador

Seattle, WA
Spring 2019-present

- Taught quarterly intro computer science classes to 100s of diverse K12 students, led visits to schools with underserved students, and hosted tours of the UW CSE building.
- Collaborated with other Ambassadors to improve experience of first-time computer science students, transforming existing curriculum to be more inclusive of students from many backgrounds.

LEADERSHIP

CSE Student Advisory Council

Chair

Seattle, WA
June 2019-present

- Served 800+ students through events focusing on student wellness, diversity, and social responsibility; managed a tight-knit 15-person team; actively listened to student issues to guide efforts.
- Interviewed students and faculty and presented policy recommendations to faculty leadership
- Increased 2x events and initiatives with an organizational redesign, improving member engagement.

At-Large Representative

September 2018-June 2019

- Prepared 50+ undergrads to negotiate salaries by coordinating the *Career Negotiations* event
- Planned with teammates to host 8+ events to best serve the community

ADDITIONAL INFORMATION

Awards: Google Computer Science Summer Institute ('18), Honors Top 1% 4-Yr Tuition Waiver ('18),
Microsoft Scholarship ('19), Theta Chi Helping Hand Scholar ('18), Top Honors Calculus Student ('19)

Other Service: Allen School Diversity Committee ('19-present), LGBTQ student group Q++ ('18-present)

Interests: Mechanical keyboards, monetary policy, queer/LGBTQ advocacy, teaching