Christophe Gyurgyik

PhD Candidate · Computer Science

Stanford University

gyurgyikcp@gmail.com | https://cgyurgyik.github.io/ | cgyurgyik

Education

Stanford University *Stanford, CA*

PhD Candidate *2023 - present*

- Advisor: Professor Fredrik Kjølstad

Cornell University *Ithaca, NY*

Bachelor's Degree, Computer Science *2018-21*

- Minor in Science & Technology Studies
- Research advisor(s): Professor Adrian Sampson and Professor Rachit Nigam

Professional Experience

2021-23	**Compiler Engineer**, Google. Worked on the XLA compiler for the TPU architecture. Achieved *x*% improvements in end-to-end weighted latency of LLMs. Over 200,000 lines of code reviewed with C++ readability, and over 200,000 authored.
2020-21	**Research Assistant**, Computer Architecture & Programming Abstractions (CAPRA), Cornell University. Shepherded the Calyx dialect into the open source CIRCT project. This is still used presently for ongoing research. Additionally, added multiple frontends to iterate on the design of the Calyx language.
2020	**Software Engineer Internship**, Google
2019	**Engineer Practicum Internship**, Google
2013-17	**Sergeant and Marksmanship Instructor**, United States Marine Corps Meritoriously promoted twice, distinguished honor graduate on numerous occasions, First Place Pistol (Third Place overall) in the Pacific Division Marksmanship Competition, and awarded the Navy & Marine Corps Achievement Medal.

Publications

Conferences

[OOPSLA '24] Compilation of Shape Operators on Sparse Arrays.
Alexander J Root, Bobby Yan, Peiming Liu, **Christophe Gyurgyik**, Aart J.C. Bik, Fredrik Kjolstad

[ASPLOS '23] Stepwise Debugging for Hardware Accelerators.
Griffin Berlstein, Rachit Nigam, **Christophe Gyurgyik**, Adrian Sampson

Workshops & Short Papers

[YArch '24] Streaming Tensor Programs: A Programming Abstraction for Streaming Dataflow Accelerators.
Gina Sohn, **Christophe Gyurgyik**, Genghan Zhang, Suguna Velury, Paul Mure, Nathan Zhang, Kunle Olukotun

[WOSET '21] A Toolkit for Designing Hardware DSLs.
Griffin Berlstein, Rachit Nigam, **Christophe Gyurgyik**, Adrian Sampson

Awards, Fellowships, & Grants

2025 **NSF GRFP Comp/IS/Eng Honorable Mention**, NSF
2025 **Qualcomm Innovation Fellowship (QIF)**, Qualcomm
2023 **Cloud Tech Impact Awards (CTIA) - LLM serving optimizations**, Google
2023 **Spot Bonus (VP of Engineering) - LLM compiler optimizations**, Google
2019-23 **Peer Bonus** $\times 4$, Google
2023 **Edwin Sibley Webster Graduate Fellowship**, MIT
2020 **Big Red Vets Land Grant**, Cornell University Veterans Association

Presentations

Invited Talks

Fall 2024. *Portal*. Machine learning compiler techniques and tribulations.

Summer 2024. *Cornell University CAPRA group*. Exploration of e-graph optimization for finite state machine generation.

Spring 2021. *Applications Driving Architectures (ADA)*. The Calyx language and its new frontends.

Teaching Experience

Winter 2025 **CS343D: Domain-Specific Programming Models and Compilers**, Teaching Assistant — *Stanford University*
Spring 2019 **CS2110: Data Structures & Object Oriented Programming**, Teaching Assistant — *Cornell University*
2015-17 **Marksmanship**, Instructor — *Pu'uola Range, HI*

Mentoring

2024-Present **Arnold Tianyi Yang**, Undergraduate, Stanford University — *Stanford, CA*

Outreach & Professional Development

Service and Outreach

2023-Present **Stanford University PhD Visit Day**, Volunteer — *Stanford, CA*
2018-Present **Cornell University Veterans Association**, Member — *Ithaca, NY*
2019 **Student Veterans of America**, Volunteer
2017 **Rubicon**, Disaster Relief — *Beaumont, TX*
2017 **Girl Scouts of the USA**, Volunteer — *Kilohanato, HI*
2017 **AccesSurf**, Lifeguard — *Oahu, HI*
2011-13 **Student Groups on Race Relations**, Member — *Cleveland, OH*

Open Source

Circuit Intermediate Representations (IR) Compilers and Tools (CIRCT), contributor and maintainer of the Calyx dialect.