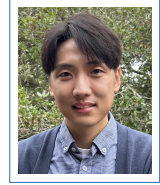


Younghyun Cho

Assistant Professor of Computer Science and Engineering
Curriculum Vitae (Short Version)

Santa Clara University
Santa Clara, CA, USA

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📄 <https://younghyunc.github.io>



Research Overview

My research focuses on system software and performance tools for parallel and high-performance computing (HPC). I am interested in improving performance of applications, ranging from traditional linear algebra operations (e.g. BLAS/LAPACK routines) to emerging machine learning workloads (e.g. randomized algorithms), running on various platforms, ranging from conventional CPUs/GPUs to domain-specific accelerators to DOE's leadership supercomputers, based on compiler/runtime system, resource management, performance profiling, and automatic performance tuning. I am one of the core developers of GPTune which is a machine learning-based, open-source performance autotuner for HPC applications and has been used for many applications in ECP (Exascale Computing Project) and other projects, across various institutions in the U.S. and abroad.

Experience

Assistant Professor, Santa Clara University, Santa Clara, CA, USA, **Sept. 2023 – present**
Department of Computer Science and Engineering
Courses (being) taught: COEN20 (Fall 2023)

Postdoctoral Scholar, University of California, Berkeley, Berkeley, CA, USA, **Aug. 2020 – Aug. 2023**
Department of Electrical Engineering and Computer Sciences
Supervisor: Professor James Demmel

Visiting Researcher, ETH Zürich, Zürich, Switzerland, **March – May 2018 & June – Aug. 2016**
Host: Professor Thomas R. Gross

Education

Doctor of Philosophy, Seoul National University, Seoul, South Korea, **Aug. 2020**
Department of Electrical Engineering and Computer Science
Advisor: Professor Bernhard Egger

Bachelor of Science in Engineering, University of Seoul, Seoul, South Korea, **Feb. 2013**
School of Computer Science

Activities

Organizing committee

- Int'l Conference on Languages, Compilers, Tools and Theory of Embedded Systems (LCTES), 2023 (publicity chair and artifact evaluation co-chair)

Program committee

- Int'l Conference on Languages, Compilers, Tools and Theory of Embedded Systems (LCTES), 2023
- International Parallel & Distributed Processing Symposium (IPDPS) 2022

Artifact evaluation committee

- Principles and Practice of Parallel Programming (PPoPP), 2018, 2019
- Int'l Conference on Languages, Compilers, Tools and Theory of Embedded Systems (LCTES), 2019

Guest talk

- UC Santa Cruz Hardware Group Seminar (VLSI/CAD Seminar), “Autotuning HPC Applications with Gaussian Process Regression and Crowd-based Transfer Learning”, Feb. 2023.

Tutorial

- ECP Annual Meeting 2023, “Autotuning ECP codes using the GPTune package”
- ECP Annual Meeting 2022, “Performance Autotuning of ECP Applications with Gaussian Process-Based and Cloud Database-Enhanced GPTune Package”
- ECP Annual Meeting 2021, “GPTune: Performance Autotuner for ECP Applications”

Award

- “SnuMAP: SNU Many-core Profiler for Big-data”, 2nd Prize in Open Source Software World Challenge, Seoul, South Korea, 2016.

Publications/Patents

The list of my publications and patents can be found at
<https://scholar.google.com/citations?user=f3i0304AAAAJ&hl=en&oi=ao>

Last update: Sept. 25, 2023.