

Princeton University
Department of Electrical and Computer Engineering

aning@princeton.edu
augustning.com

Engineering Quad, Room J301
41 Olden St
Princeton, NJ 08544

Education

Princeton University

Ph.D., Electrical and Computer Engineering Expected 2025
M.A., Electrical and Computer Engineering 2022
Advisor: Prof. David Wentzlaff

Duke University

B.S.E., Electrical and Computer Engineering 2020
B.S., Computer Science
Magna Cum Laude, Graduated with ECE Distinction
Advisor: Prof. Krishnendu Chakrabarty

Publications

8. Jeremiah Giordani*, Ziyang Xu*, Ella Colby, August Ning, Bhargav Reddy Godala, Ishita Chaturvedi, Shaowei Zhu, Yebin Chon, Greg Chan, Zujun Tan, Galen Collier, Jonathan D. Halverson, Enrico Armenio Deiana, Jasper Liang, Federico Sossai, Yian Su, Atmn Patel, Bangyen Pham, Nathan Greiner, Simone Campanoni, and David I. August. “Revisiting Computation for Research: Practices and Trends”. In: *2024 SC24: International Conference for High Performance Computing, Networking, Storage and Analysis SC*. Los Alamitos, CA, USA: IEEE Computer Society, Nov. 2024, pp. 1097–1110. DOI: [10.1109/SC41406.2024.00076](https://doi.org/10.1109/SC41406.2024.00076)
7. Hengrui Zhang, August Ning, Rohan Baskar Prabhakar, and David Wentzlaff. “LLMCompass: Enabling Efficient Hardware Design for Large Language Model Inference”. In: *2024 ACM/IEEE 51st Annual International Symposium on Computer Architecture (ISCA)*. 2024, pp. 1080–1096. DOI: [10.1109/ISCA59077.2024.00082](https://doi.org/10.1109/ISCA59077.2024.00082)
6. Ang Li, Ting-Jung Chang, Fei Gao, Tuan Ta, Georgios Tziantzioulis, Yanghui Ou, Moyang Wang, Jinzheng Tu, Kaifeng Xu, Paul Jackson, August Ning, Grigory Chirkov, Marcelo Orenes-Vera, Shady Agwa, Xiaoyu Yan, Eric Tang, Jonathan Balkind, Christopher Batten, and David Wentzlaff. “CIFER: A Cache-Coherent 12nm 16mm² SoC With Four 64-Bit RISC-V Application Cores, 18 32-Bit RISC-V Compute Cores, and a 1541 LUT6/mm² Synthesizable eFPGA”. in: *IEEE Solid-State Circuits Letters* (2023). DOI: [10.1109/LSSC.2023.3303111](https://doi.org/10.1109/LSSC.2023.3303111)
5. August Ning, Georgios Tziantzioulis, and David Wentzlaff. “Supply Chain Aware Computer Architecture”. In: *Proceedings of the 50th Annual International Symposium on Computer Architecture (ISCA)*. 2023. DOI: [10.1145/3579371.3589052](https://doi.org/10.1145/3579371.3589052)
4. Ting-Jung Chang*, Ang Li*, Fei Gao, Tuan Ta, Georgios Tziantzioulis, Yanghui Ou, Moyang Wang, Jinzheng Tu, Kaifeng Xu, Paul J. Jackson, August Ning, Grigory Chirkov, Marcelo Orenes-Vera, Shady Agwa, Xiaoyu Yan, Eric Tang, Jonathan Balkind, Christopher Batten, and David Wentzlaff. “CIFER: A 12nm, 16mm², 22-Core SoC with a 1541 LUT6/mm², 1.92 MOPS/LUT, Fully Synthesizable, Cache-Coherent, Embedded FPGA”. in: *2023 IEEE Custom Integrated Circuits Conference (CICC)*. 2023. DOI: [10.1109/CICC57935.2023.10121294](https://doi.org/10.1109/CICC57935.2023.10121294)
3. Fei Gao, Ting-Jung Chang, Ang Li, Marcelo Orenes-Vera, Davide Giri, Paul Jackson, August Ning, Georgios Tziantzioulis, Joseph Zuckerman, Jinzheng Tu, Kaifeng Xu, Grigory Chirkov, Gabriele Tombesi,

- Jonathan Balkind, Margaret Martonosi, Luca Carloni, and David Wentzlaff. “DECADES: A 67mm², 1.46TOPS, 55 Giga Cache-Coherent 64-bit RISC-V Instructions per second, Heterogeneous Manycore SoC with 109 Tiles including Accelerators, Intelligent Storage, and eFPGA in 12nm FinFET”. in: *2023 IEEE Custom Integrated Circuits Conference (CICC)*. 2023. DOI: [10.1109/CICC57935.2023.10121257](https://doi.org/10.1109/CICC57935.2023.10121257)
2. Ang Li, August Ning, and David Wentzlaff. “Duet: Creating Harmony between Processors and Embedded FPGAs”. In: *2023 IEEE International Symposium on High-Performance Computer Architecture (HPCA)*. 2023. DOI: [10.1109/HPCA56546.2023.10070989](https://doi.org/10.1109/HPCA56546.2023.10070989)
 1. Sanmitra Banerjee, Arjun Chaudhuri, August Ning, and Krishnendu Chakrabarty. “Variation-Aware Delay Fault Testing for Carbon-Nanotube FET Circuits”. In: *IEEE Transactions on Very Large Scale Integration (VLSI) Systems* 29.2 (2021), pp. 409–422. DOI: [10.1109/TVLSI.2020.3045417](https://doi.org/10.1109/TVLSI.2020.3045417)

Workshop Presentations

3. August Ning and David Wentzlaff. “Carbon Characterization of a Megawatt-scale Research Data Center”. In: *The Andlinger Center for Energy and the Environment’s 2024 Annual Meeting* (2024)
2. August Ning and David Wentzlaff. “Computer Architectures for Chip Surplus”. In: *ACM Student Research Competition at MICRO 2022* (2022)
1. August Ning, Georgios Tziantzioulis, and David Wentzlaff. “Supply Chain Aware Chip Architecture”. In: *The Fourth Young Architect Workshop at ASPLOS 2022* (2022)

Talks

Princeton ACM - “How to Apply to Grad School”	2024
Berkeley SLICE Lab All-Hands - “Architectural Implications of Advanced Computing Sanctions”	2024
Stanford Computer Architecture Reading Group - “Architectural Implications of Advanced Computing Sanctions”	2024
NYU Computer Architecture Day - “Chip Architectures Under Advanced Computing Sanctions”	2024
Princeton ACM - “Should You go to Grad School?”	2024
AMD Research - “Supply Chain Aware Computer Architecture”	2023
Princeton Graduate Fellowship Panel, Panelist	2022
Princeton EGR 152 - “Spotlight on Engineering”	2022

Research

Research Interests: Computer Architecture under Economic/Future Trends, Chiplet Architectures/Systems, Sustainability, Hardware Policy, Chip Tapeouts

AMD Research Summer 2023

Research Intern - Bellevue, WA
Reported to Yasuko Eckert
CPU/GPU profiling and optimization for large language model workloads

Princeton Parallel Group 2021 - Present

Post-Moore’s Law computer architectures
Focusing on evaluation metrics and architectures beyond power, performance, and area (PPA)

Chakrabarty Lab 2018 - 2020

VLSI testing for deep learning hardware and Carbon Nanotube FETs
Undergrad Thesis: Automating Path Generation for Variation-Aware Delay Fault Testing

TU Dortmund Department of High Voltage Technology Summer 2018

Advisor: Prof. Frank Jenau

High voltage cable technologies and measurement systems
Supported by DAAD RISE Germany Scholarship

Professional and Academic Service

SIGARCH, SIGMICRO, and TCCA

Joint Task Force on PhD Student Reviewer Training 2024 - Present

Computer Architecture Student Association (CASA) Steering Committee 2022 - Present

HPCA 2025 - Artifact Evaluation Committee

MICRO 2024 - Undergrad Architecture Mentoring (uArch) Workshop Mentor, Panelist

ISCA 2024 - Artifact Evaluation Committee

ISCA 2023 - Undergrad Architecture Mentoring (uArch) Workshop Mentor

ASPLOS 2023 - Social Co-Chair

Princeton

Whitman College - Resident Graduate Student 2023 - Present

Princeton ACM - Graduate Student Liaison 2023 - Present

ECE Department Graduate Committee 2022 - 2024

Princeton-Intel REU Program - Graduate Research Mentor Summer 2022, Summer 2024

Princeton Graduate Student Government 2021 - 2024

GSG Social Committee Member

Electrical and Computer Engineering Assembly Representative

Duke

Duke IEEE – Student Branch 2016 - 2020

Vice President (2017) and President (2018-2020)

Tau Beta Pi (NC Gamma) - Treasurer 2019 - 2020

Engineering World Health Tanzania - Volunteer BMET Summer 2017

Teaching and Mentoring

Princeton

Graduate Teaching Assistant - grading, office hours, precepts

ECE/COS 475/575: Computer Architecture Spring 2022

Prof. David Wentzlaff

Princeton-Intel REU Program

Dara Oseyemi (Summer 2022)

Mukund Ramakrishnan (Summer 2022)

Manya Zhu (Summer 2022)

Jeremy Hui (Summer 2024)

Nikhil Sampath (Summer 2024)

Duke

Undergraduate Teaching Assistant - grading, office hours, lab instruction

ECE 110: Fundamentals of ECE Fall 2018, Spring 2018, 2019, 2020

Prof. Stacy Tantum

ECE 230: Microelectronic Devices and Circuits Fall 2018

Prof. Aaron Franklin

ECE 350: Digital Systems Fall 2019, Spring 2019, 2020

Prof. Rabih Younes, Prof. John Board

Non Research Experience

Microsoft Summer 2020

Software Engineering Intern – Redmond, WA (Remote)
Azure hardware acceleration. Project implemented in C/C++

Burns & McDonnell

Summer 2019

Electrical Engineering Summer Analyst – Chicago, IL
Substation design (physical and wiring diagrams) contracts for ComEd and LGE-KU

Honors

Princeton - ECE Graduate Student Award for Excellence in Service	2023
Princeton - Gordon Y. S. Wu Fellowship	2020
National Science Foundation – Graduate Research Fellowship	2020
Otto Meier Jr. Tau Beta Pi Award	2020
Chief Student Marshal	2019
IEEE Eta Kappa Nu	2019
Tau Beta Pi	2019
DAAD RISE Germany Scholarship	2018
Bingle Family Scholarship	2017
Travel Grants: ASPLOS 2022 (YArch), MICRO 2022 (SRC), HPCA 2023, ASPLOS 2023, ISCA 2023, ISCA 2024	

Miscellaneous

Languages: Fluent in English, Mandarin Chinese, proficient in Spanish
Hobbies: House Plants, Gardening, Day Hiking, Cooking
Nationality: USA

Last updated: 20 December 2024