August Ning CV

École Polytechnique Fédérale de Lausanne (EPFL)
School of Computer and Communication Sciences (IC)

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Appointments

École Polytechnique Fédérale de Lausanne (EPFL) 2025 - Present
Postdoctoral Research Associate with Babak Falsafi (PARSA and EcoCloud)

Research Interests: Computer Architecture under Economic/Future Trends, Chiplet Architectures, Cost and Energy Efficiency, Sustainability, Computing Policy, Chip Tapeouts

Education

Princeton University
Ph.D., Electrical and Computer Engineering 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

9. August Ning and David Wentzlaff. "Chip Architectures Under Advanced Computing Sanctions". In: *Proceedings of the 52nd Annual International Symposium on Computer Architecture*. ISCA '25. Association for Computing Machinery, 2025, pp. 1225–1239. ISBN: 9798400712616. DOI: 10.1145/3695053.3731012. URL: https://doi.org/10.1145/3695053.3731012
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
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
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 16mm^2 SoC With Four 64-Bit RISC-V Application Cores, 18 32-Bit RISC-V Compute Cores, and a 1541 LUT6/mm^2 Synthesizable eFPGA". in: *IEEE Solid-State Circuits Letters* (2023). DOI: 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
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, 16mm^2, 22-Core SoC with a 1541 LUT6/mm^2, 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
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 67mm^2, 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
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
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

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

University of Central Florida - "Architectural Implications of Advanced Computing Sanctions"	2025
EPFL - "Designing Computer Systems under Sanctions and Cost Efficiency"	2025
Princeton ACM - "How to Apply to Grad School"	2024
UC 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

Previous Research Experience

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 - 2025
Post-Moore's Law computer architectures
Thesis: *Computer Architecture Under Economic Constraints*

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 2025
Computer Architecture Student Association (CASA) Steering Committee 2022 - Present
Artifact Evaluation Committee - ISCA 2024, HPCA 2025
Undergrad Architecture Mentoring (uArch) Workshop Mentor - ISCA 2023, MICRO 2024 (Panelist), ISCA 2025
Social Co-Chair - ASPLOS 2023

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, ISCA 2025

Miscellaneous

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

Last updated: 31 August 2025