

Peijing Li

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420 Via Palou Mall, Allen Building Room 107A, Stanford, CA 94305

EDUCATION

Stanford University

Doctor of Philosophy in Electrical Engineering

Stanford, CA

Sep 2024 – Present

- Research Advisor: Thierry Tambe

• Coursework: Semiconductor Memory Devices and Circuit Design, Parallel Computing, Computer Systems Architecture

University of Michigan

Bachelor of Science in Engineering in Computer Science

Ann Arbor, MI

Aug 2020 – May 2024

Minor in Civil Engineering; College of Engineering Honors Program

- Cumulative GPA: 4.0/4.0. Graduated *summa cum laude*

• Coursework: Computer Architecture, Advanced Compilers, Computer Security, Computer Vision, Software Engineering, Transportation Engineering, Linear Optimization

RESEARCH EXPERIENCE

Stanford Differentiated Access Memory Project

Sep 2024 – Present

Research work under the supervision of Prof. Thierry Tambe

- Evaluating the feasibility of heterogeneous on-chip memory systems composed short- and long-term memory devices in state-of-the-art AI accelerator hardware
- Leading tapeout project on 3T gain cell eDRAM-based AI accelerator, implementing high-level synthesis design of dynamically refreshed gain cell on-chip memory and retention-aware accelerator processing element cores
- Developing GainSight, a profiler suite that measures the fine-grained data lifetimes and memory access patterns of software applications and aligns these patterns to guide the composition of heterogeneous memory systems
- Advising undergraduate intern in research group on developing data lifetime-aware compilation toolchains

WORK EXPERIENCE

ASML Silicon Valley

San José, CA

Software Test Engineer Intern

May 2023 – Aug 2023

University of Michigan Department of Civil and Environmental Engineering

Ann Arbor, MI

Instructional Aide, CEE 375 Sensors, Circuits, and Signals course

Jan 2023 – Apr 2023

University of Michigan Transportation Research Institute

Ann Arbor, MI

Research Assistant, Biosciences Group

Feb 2022 – Aug 2022

Dell Technologies

Shanghai, China

Software Engineering Intern, Research & Development

Jun 2021 – Aug 2021

PUBLICATIONS

[1] Peijing Li, Muhammad Shahir Abdurrahman, Rachel Cleaveland, Sergey Legtchenko, Philip Levis, Ioan Stefanovici, Thierry Tambe, David Tennenhouse, Caroline Trippel, and H.-S. Philip Wong. 2025. Towards Memory Specialization: A Case for Long-Term and Short-Term RAM. In Workshop on Disruptive Memory Systems (DIMES '25), October 13, 2025. Association for Computing Machinery, Seoul, Korea (South), 10. <https://doi.org/10.1145/3764862.3768175>

[2] Peijing Li, Matthew Hung, Yiming Tan, Konstantin Hoßfeld, Jake Cheng Jiajun, Shuhan Liu, Lixian Yan, Xinxin Wang, Philip Levis, H.-S. Philip Wong, and Thierry Tambe. 2025. GainSight: A Unified Framework for Data Lifetime Profiling and Heterogeneous Memory Composition. <https://doi.org/10.48550/arXiv.2504.14866>

[3] Samuel Dayo, Shuhan Liu, Peijing Li, Philip Levis, Subhasish Mitra, Thierry Tambe, David Tennenhouse, and H.-S. Philip Wong. 2025. The Future of Memory: Limits and Opportunities. <https://doi.org/10.48550/arXiv.2508.20425>

[4] Xinxin Wang, Lixian Yan, Shuhan Liu, Luke Upton, Zhuoqi Cai, Yiming Tan, Shengman Li, Koustav Jana, Peijing Li, Jesse Cirimelli-Low, Thierry Tambe, Matthew Guthaus, and H.-S. Philip Wong. 2025. OpenGCRAM: An Open-Source Gain Cell Compiler Enabling Design-Space Exploration for AI Workloads. <https://doi.org/10.48550/arXiv.2507.10849>