

John Kloosterman

September 2018

Contact Information 3611 Bob and Betty Beyster Building jklooste@umich.edu
2260 Hayward St. <http://jkloosterman.net>
Ann Arbor, MI 48109

Research Interests Compilers, computer architecture, GPUs and throughput processor software and architecture, computer science/engineering education

Education **University of Michigan, Ann Arbor, MI**
Ph.D., Computer Science and Engineering, 2018
Thesis: Data Resource Management in Throughput Processors
Advisor: Scott Mahlke

University of Michigan, Ann Arbor, MI
M.S., Computer Science and Engineering, 2015

Calvin College, Grand Rapids, MI
B.S., Computer Science with honors, Philosophy, 2013

Teaching Experience **Introductory Programming Concepts (EECS 183)**, University of Michigan
Fall 2018, Winter 2019

Programming and Introductory Data Structures (EECS 280), University of Michigan
Winter 2017 (943 students, 29 course staff)

Publications **Scratch That (But Cache This): A Hybrid Register Cache / Scratchpad for GPUs**
Jonathan Bailey, **John Kloosterman**, Scott Mahlke
International Conference on Compilers, Architectures, and Synthesis for Embedded Systems (CASES) 2018

RegLess: Just-in-Time Operand Staging for GPUs
John Kloosterman, Jonathan Beaumont, D. Anoushe Jamshidi, Jonathan Bailey, Trevor Mudge, Scott Mahlke
International Symposium on Microarchitecture (MICRO) 2017 (19% acceptance rate)

WarpPool: Sharing Requests with Inter-Warp Coalescing for Throughput Processors
John Kloosterman, Jonathan Beaumont, Michael Wollman, Ankit Sethia, Ron Dreslinski, Trevor Mudge, Scott Mahlke
International Symposium on Microarchitecture (MICRO) 2015 (22% acceptance rate)

local_malloc: malloc() for OpenCL local memory

John Kloosterman, Joel Adams

International Conference on High Performance Computing, Networking, Storage and Analysis (SC) 2013, ACM Student Research Competition poster (48% acceptance rate)

**Work
Experience**

Lecturer III, Computer Science and Engineering, 2018 – present

University of Michigan, Ann Arbor, MI

Research Fellow, 2018

University of Michigan, Ann Arbor, MI

Project: “Security Assurance through Protocol Customization: Novel Program Analysis and Machine Learning based Automation”

PIs: Scott Mahlke, Z. Morley Mao

Google Software Engineering Intern, 2015

Google, Mountain View, CA

Designed and implemented a high-performance parallel C++ memory profiling tool used across many Google projects.

Graduate Student Research Assistant/Instructor, 2013 – 2018

University of Michigan, Ann Arbor, MI

Service

Reviewer, SIGCSE 2018, 2019

Research Policy Committee, University of Michigan, 2015-16, 2016-17

**Other Teaching
Experience**

Graduate Teaching Certificate, University of Michigan CRLT

Adult numeracy tutor, Siena Literacy Center, Detroit, MI

Software

Trace-based GPU simulator in Python (github.com/jkloosterman/tracera)

Compiler with tracing JIT runtime (github.com/jkloosterman/rsl-compiler)