

John Kloosterman

Contact Information	4861 Bob and Betty Beyster Building 2260 Hayward St. Ann Arbor, MI 48109	(616) 520-4953 jklooste@umich.edu http://jkloosterman.net
Research Interests	My primary research areas are computer architecture and compilers, particularly making throughput processors like GPUs more efficient. This allows training better neural networks for image recognition and machine translation in datacenters, and enables mobile devices to filter images and recognize speech without draining the battery.	
Education	University of Michigan, Ann Arbor, MI Ph.D., Computer Science and Engineering, anticipated April 2018 M.S., Computer Science and Engineering, 2015 Graduate Teaching Certificate, Center for Research on Learning and Teaching Advisor: Scott Mahlke Calvin College, Grand Rapids, MI B.S., Computer Science with honors, Philosophy, 2013	
Teaching Experience	Programming and Introductory Data Structures (EECS 280) Primary Instructor, University of Michigan, Winter 2017 <ul style="list-style-type: none">• Course topics included pointers, list data structures, object-oriented programming, recursion• Lecturer for 223-student section of 950-student sophomore-level class• Hired and managed staff of 29 teaching assistants alongside 3 co-instructors	
Student Evaluations	"Overall, the instructor was an excellent teacher": 4.67 (5-point scale) Selected student comments: <ul style="list-style-type: none">• <i>"I really appreciate how you don't go too fast and explain things systematically and thoroughly, without assuming that we already know the topic before being taught it."</i>• <i>"I love the use of examples in class, and the effective analogies"</i>• <i>"Extremely caring, thoughtful, and inclusive"</i>	
Other Teaching and Mentoring Experience	Tutored an adult learner in basic numeracy, Siena Literacy Center, Detroit Completed graduate course in teaching engineering (ENGR 580) Created and led graduate student GPU architecture reading group Ran drop-in help sessions and tutored undergraduate peers at Calvin College	
Publications	RegLess: Just-in-Time Operand Staging for GPUs John Kloosterman, Jonathan Beaumont, D. Anoushe Jamshidi, Jonathan Bailey, Trevor Mudge, Scott Mahlke <i>International Symposium on Microarchitecture (MICRO) 2017 (19% acceptance rate)</i>	

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)

Professional Experience

Google Software Engineering Intern, Summer 2015

Google, Mountain View, CA

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

Software Engineering Intern, Summer 2013

Logos Research Systems, Bellingham, WA

Created an OpenCV-based system to automatically place and format text on PowerPoint slide backgrounds, and led winning team in company intern hackathon.

Web Developer Intern, 2011 - 2013

Calvin College, Grand Rapids, MI

My redesign of an online digital humanities resource (hymnary.org) tripled traffic to over 50,000 page views per day. Other projects included refreshing the online student newspaper and architecting a scholarship application system.

Service

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

Core Curriculum Committee, Calvin College, 2010 – 2013

Reviewer, SIGCSE 2018 experience reports and posters

Awards

Calvin Computing Award (top computer science graduate), Calvin College

EECS Department Guaranteed Graduate Funding, University of Michigan

Software

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

End-to-end compiler with tracing JIT runtime (github.com/jkloosterman/rsl-compiler)

Skills

Languages: C++, C, Python, CUDA, OpenCL, JavaScript

Tools: LLVM, Pin, GPGPU-sim, SASSI, gem5