

BARIS KASIKCI

Associate Professor

Paul G. Allen School of Computer Science & Engineering
University of Washington

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RESEARCH INTERESTS

My research is centered around building efficient and trustworthy computer systems. I build techniques to improve the efficiency of datacenter applications, provide systems support for heterogeneous platforms, verify the safety of complex distributed systems, analyze and fix failures, and improve the security of modern hardware. Building efficient and trustworthy systems requires a combination of approaches. My work draws insights from a broad set of disciplines such as systems, computer architecture, and programming languages.

EDUCATION

Ecole Polytechnique Fédérale de Lausanne (EPFL)	<i>Lausanne, Switzerland</i>
<i>PhD in Computer Science</i>	Sep. 2010–Dec. 2015
Thesis: Techniques for Detection, Root Cause Diagnosis, and Classification of In-Production Concurrency Bugs	
Advisor: Prof. George Candea	
Middle East Technical University (METU)	<i>Ankara, Turkey</i>
<i>M.Sc. in Electrical and Electronics Engineering</i>	Sep. 2006–Jun. 2009
Thesis: Variability Modeling in Software Product Lines	
<i>Graduated with the top grade</i>	
Advisor: Prof. Semih Bilgen	
<i>B.Sc. in Electrical and Electronics Engineering</i>	Sep. 2002–Jun. 2006
Project: Embedded Target Estimation, Detection, and Tracking	
<i>Graduated with High Honors</i>	
Advisor: Prof. Arzu Koc	

AWARDS AND HONORS

DSN Rising Star in Dependability Award	2025
MLSys Best Paper Award	2025
AMD Faculty Research Award	2024
Amazon Research Award	2024
Google Research Award	2024
Open Compute Research Award	2024
SIGCOMM Best Paper Award	2024
IEEE Micro Top Pick, "Ocolos"	2023
Google Research Award	2023
MICRO Best Paper Award	2022
Morris Wellman Endowed Professorship	2022
PLDI Distinguished Reviewer Award	2022
Microsoft Research Faculty Fellowship	2021
Google Fuzzing Research Award	2021
VMware Early Career Grant	2021
IEEE Micro Top Pick Honorable Mention, "Agamotto"	2021
NSF CAREER Award	2020
Intel Rising Star Award	2020
IEEE Micro Top Pick Honorable Mention, "NDA"	2020
Google Faculty Research Award	2019
IEEE Micro Top Pick, "Foreshadow"	2019
Intel Faculty Award	2019
Jay Lepreau Best Paper Award, OSDI	2018
Intel Faculty Award	2018
Microsoft Azure Cloud Computing Award	2017
Outstanding Reviewer Award, WWW	2017
Patrick Denantes Memorial Prize for outstanding PhD thesis, EPFL	2016
EuroSys Roger Needham Award for Best PhD. Thesis in Computer Systems in Europe	2016
Intel Corp. Software and Services Group, Grant	2014–2016
VMware Inc., Doctoral Fellowship	2014–2015
EPFL, Doctoral Fellowship	2010–2011
Scientific and Technological Research Council of Turkey, Master Scholarship	2006–2008

STUDENT AWARDS AND HONORS

ACM SIGARCH/IEEE CS TCCA Outstanding Dissertation Award, Tanvir Ahmed Khan	2024
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NSF Graduate Research Fellowship (GRFP), Matthew Giordano	2024
Towner Prize for Outstanding for Outstanding Ph.D. research, Tanvir Ahmed Khan	2024
NSF CSGrad4US Fellowship, Hannah Lin	2023
ACM Student Research Competition First Prize (MICRO), Kan Zhu	2022
Rackham Doctoral Fellowship, Tanvir Ahmed Khan	2022
Google Fellowship, Kevin Loughlin	2021
Facebook Fellowship, Marina Minkin	2021
Facebook Fellowship Finalist, Ian Neal	2021
ACM Student Research Competition First Prize (MICRO), Shixin Song	2021
CRA Outstanding Undergraduate Researcher Award Honorable Mention, Shixin Song	2021
CRA Undergraduate Awards, Honorable Mention, Shixin Song	2021
NSF Graduate Research Fellowship (GRFP), Kevin Loughlin	2020
Award for Excellence in Climate, Diversity, Equity, and Inclusion; Univ. of Michigan, Kevin Loughlin	2020
NSF Graduate Research Fellowship (GRFP), Andrew Loveless	2020
Facebook Fellowship Finalist, Tanvir Ahmed Khan	2020
ACM Student Research Competition First Prize (CGO), Nathan Brown	2020
Microsoft Research PhD Fellowship, Andrew Quinn	2017
NSF Graduate Research Fellowship (GRFP), Andrew Quinn	2017

FUNDING

Overall, I raised 10.346 million USD for my group's research funding, including fellowships (82.344M total amount of funding).

Samsung Advanced Technology Grant, 400K USD, PI	2025
DARPA TRACTOR Grant, 1M USD, PI	2025
AMD Faculty Research Award, 125K USD, PI	2024
Open Compute Project, 47.5K USD, PI	2024
Amazon Gift, 50K USD, PI	2024
SRC JUMP 2.0 SEED grant, 50K USD, PI	2024
IARPA-H, 400K USD (2M USD total), co-PI	2024
Google Gift, 50K USD, PI	2024
SRC JUMP 2.0 SEED grant, 80K USD, PI	2023
NSF Large, 1M USD (5M USD total), co-PI	2023
SRC JUMP 2.0 grant, 1M USD (35M USD total), PI	2023
Intel Transformative Server Architectures Center, 150K USD (600K USD total), PI	2022
Google Gift, 30K USD, PI	2022

ONR Grant, 510K USD, PI	2022
Morris Wellman Professorship Endowment, 40K USD, PI	2022
Google Fuzzing Research Award, 50K USD, PI	2021
Microsoft Research Faculty Fellowship, 200K USD, PI	2021
VMware Early Career Grant, 50K USD, PI	2021
SRC Realignment Grant, 406K USD, PI	2021
NSF CAREER Award, 576K USD, PI	2020
NSF/Intel FoMR Grant, 180K USD (360K USD total), co-PI	2020
NSF FMitF Grant, 375K USD (750K USD total), co-PI	2020
DARPA AMP Grant, 600K USD (1.8M USD total), PI	2020
SRC Seed Grant, 50K USD (150K USD total), PI	2020
Intel Rising Star Award, 50K USD, PI	2020
Intel Faculty Award, Performance Debugging, 75K USD, PI	2019
Google Cloud Computing Grant, 5K USD, PI	2019
Google Faculty Research Award, 80K USD, PI	2019
Intel Faculty Award, Automated Performance Optimization, 75K USD, PI	2018
Michigan College of Engineering Grant, 3K USD, PI	2018
Michigan Cambridge Research Initiative, 15K USD, PI	2018
Intel Gift, SysTEX'18 Workshop Sponsorship, 2K USD, PI	2018
Microsoft Azure Cloud Computing Grant, 25K USD, PI	2018
SRC JUMP 1.0 grant, 1,25M USD (31.2M USD total), PI	2017

EMPLOYMENT

University of Washington	<i>Seattle, Washington, USA</i>
Associate Professor	Aug. 2023-Present
Paul G. Allen School of Computer Science & Engineering	
Google	<i>Seattle, Washington, USA</i>
Faculty Researcher	Jun. 2022-Present
Systems Research Group	
University of Michigan	<i>Ann Arbor, Michigan, USA</i>
Adjunct Associate Professor	Aug. 2023-Present
Electrical Engineering and Computer Science Department	
University of Washington	<i>Seattle, Washington, USA</i>
Affiliate Associate Professor	Jun. 2022-Aug. 2023
Paul G. Allen School of Computer Science & Engineering	
University of Michigan	<i>Ann Arbor, Michigan, USA</i>
Assistant Professor	Sep. 2017–Aug. 2023
Electrical Engineering and Computer Science Department	
Microsoft Research	<i>Cambridge, United Kingdom</i>

Researcher	Aug. 2016–Aug. 2017
Research on computer systems and networks	
Ecole Polytechnique Fédérale de Lausanne (EPFL)	<i>Lausanne, Switzerland</i>
Postdoctoral Researcher	Dec. 2015–Jul. 2016
Research on software security	
<ul style="list-style-type: none"> I developed infrastructure that relies on hardware support to improve software security. 	
Research Assistant	Sep. 2010–Dec. 2015
Research on software reliability with an emphasis on concurrent software	
<ul style="list-style-type: none"> I developed Gist, the first technique for accurately, efficiently, and automatically diagnosing the root causes of in-production failures, by using a combination of static and dynamic program analysis. I developed RaceMob, the first automated in-production data race detection technique that can be kept always-on and provides high accuracy, by combining static data race detection with adaptive, crowdsourced dynamic data race detection. I developed Portend, a high-accuracy technique to classify data races according to their potential consequences under arbitrary memory models, by using symbolic program analysis to explore multiple program paths and schedules to determine the effects of data races. I developed Bias-Free Sampling, a technique that allows efficient sampling of rarely executed code (where bugs often lurk) without over-sampling frequently executed code, by using a new sampling algorithm and existing hardware support. 	
Intel Corp.	<i>Santa Clara, CA, USA</i>
Research Intern	Jul. 2015–Sep. 2015
Automated root cause diagnosis of failures and security enhancements using hardware support	
<ul style="list-style-type: none"> I developed a tool that allows developers to determine which program statements operate on a given data type at runtime using a mix of static program analysis and hardware support. In our experiments, this tool reduces the number of statements to examine during debugging by an order of magnitude. This tool is being extended internally at Intel. I began investigating hardware support for enhancing system security, in particular, efficient path profiling for auditing and detecting control flow hijack attacks. 	
VMware Inc.	<i>Palo Alto, CA, USA</i>
Research and Development Intern	Jun. 2014–Sep. 2014
Automated debugging and runtime control flow tracking	
<ul style="list-style-type: none"> I implemented a runtime for efficient control flow tracking in software. This work formed the basis of my Gist work on root cause diagnosis. I designed and implemented an infrastructure to remotely debug and profile VMware VCenter virtual machine management software, while it is running in production. This infrastructure is used by VCenter developers at VMWare. 	
Microsoft Research	<i>Redmond, WA, USA</i>
Research Intern	Jun. 2013–Sep. 2013
Efficient runtime execution sampling technique and low overhead coverage measurement	
<ul style="list-style-type: none"> I worked on the design of the Bias-Free Sampling framework for efficient runtime sampling. I designed and implemented the bias-free sampling framework for managed code (i.e., C#). This tool is internally used at Microsoft. I designed and implemented a fault injection tool to detect resource leakage problems using dynamic binary instrumentation. 	

Siemens Corporate Technology

Senior Software Engineer

Embedded home and industrial automation software

Istanbul, Turkey

Mar. 2008–May 2010

- I designed and implemented a real-time embedded gateway software between Siemens communication processors and a building automation system using C++ on top of VxWorks.

Aselsan Electronic Industries

Software Engineer

Embedded motor control and functional testing infrastructure

Ankara, Turkey

May 2006–Mar. 2008

- I was responsible for a real-time embedded control software for turret motor control. I also designed and implemented a full-system functional testing software using C++ on top of VxWorks for Power PC architectures.

Student Intern

Jun. 2005–Jul. 2005

Embedded software development

- I developed embedded control software for a night vision camera using C++ and PIC assembly on a PIC microcontroller.

PEER-REVIEWED PUBLICATIONS

- [1] PASS: A Power Adaptive Storage Server. Dedong Xie, Theano Stavrinos, Jonggyu Park, Simon Peter, Baris Kasikci, and Thomas E. Anderson. *EuroSys*, Apr 2026.
- [2] BlendServe: Optimizing Offline Inference with Resource-Aware Batching. Yilong Zhao, Shuo Yang, Kan Zhu, Lianmin Zheng, Baris Kasikci, Yifan Qiao, Yang Zhou, Jiarong Xing, and Ion Stoica. *ASPLOS*, Mar 2026.
- [3] LiteASR: Efficient Automatic Speech Recognition with Low-Rank Approximation. Keisuke Kamahori, Jungo Kasai, Noriyuki Kojima, and Baris Kasikci. *EMNLP*, Nov 2025.
- [4] Mitigating Application Resource Overload with Targeted Task Cancellation. Yigong Hu, Zeyin Zhang, Yicheng Liu, Yile Gu, Shuangyu Lei, Baris Kasikci, and Peng Huang. *SOSP*, Oct 2025.
- [5] NanoFlow: Towards Optimal Large Language Model Serving Throughput. Kan Zhu, Yufei Gao, Yilong Zhao, Liangyu Zhao, Gefei Zuo, Yile Gu, Dedong Xie, Tian Tang, Qinyu Xu, Zihao Ye, Keisuke Kamahori, Chien-Yu Lin, Ziren Wang, Stephanie Wang, Arvind Krishnamurthy, and Baris Kasikci. *OSDI*, Jul 2025.
- [6] FlashInfer: Efficient and Customizable Attention Engine for LLM Inference Serving. Zihao Ye, Lequn Chen, Ruihang Lai, Wuwei Lin, Yineng Zhang, Stephanie Wang, Tianqi Chen, Baris Kasikci, Vinod Grover, Arvind Krishnamurthy, and Luis Ceze. *MLSys*, May 2025.
- [7] Scalable and Accurate Application-Level Crash-Consistency Testing via Representative Testing. Yile Gu, Ian Neal, Jiexiao Xu, Shaun Christopher Lee, Ayman Said, Musa Haydar, Jacob Van Geffen, Rohan Kadekodi, Andrew Quinn, and Baris Kasikci. *OOPSLA*, Apr 2025.
- [8] Fiddler: CPU-GPU Orchestration for Fast Inference of Mixture-of-Experts Models. Keisuke Kamahori, Tian Tang, Yile Gu, Kan Zhu, and Baris Kasikci. *ICLR*, Apr 2025.
- [9] Palermo: Improving the Performance of Oblivious Memory using Protocol-Hardware Co-Design. Haojie Ye, Yuchen Xia, Yuhan Chen, Kuan-Yu Chen, Yichao Yuan, Shuwen Deng, Baris Kasikci, Trevor Mudge, and Nishil Talati. *HPCA*, Mar 2025.

- [10] From Optimal to Practical: Efficient Micro-op Cache Replacement Policies for Data Center Applications. Kan Zhu, Yilong Zhao, Yufei Gao, Peter Braun, Tanvir Ahmed Khan, Heiner Litz, Baris Kasikci, and Shuwen Deng. *HPCA*, Mar 2025.
- [11] Beehive: A Flexible Network Stack for Direct-Attached Accelerators. Katie Lim, Matthew Giordano, Theano Stavrinos, Jacob Nelson, Irene Zhang, Baris Kasikci, and Thomas Anderson. *MICRO*, Nov 2024.
- [12] Understanding the host network. Midhul Vuppala, Saksham Agarwal, Henry Schuh, Baris Kasikci, Arvind Krishnamurthy, and Rachit Agarwal. *SIGCOMM*, Aug 2024.
- [13] Quest: Query-Aware Sparsity for Efficient Long-Context LLM Inference. Jiaming Tang, Yilong Zhao, Kan Zhu, Guangxuan Xiao, Baris Kasikci, and Song Han. *ICML*, July 2024.
- [14] ZipChannel: Cache Side-Channel Vulnerabilities in Compression Algorithms. Marina Minkin and Baris Kasikci. *DSN*, June 2024.
- [15] UDP: Utility-Driven Fetch Directed Instruction Prefetching. Surim Oh, Mingsheng Xu, Tanvir Ahmed Khan, Baris Kasikci, and Heiner Litz. *ISCA*, Jun 2024.
- [16] Atom: Low-bit quantization for efficient and accurate llm serving. Kan Zhu, Zihao Ye, Lequn Chen, Size Zheng, Luis Ceze, Arvind Krishnamurthy, Tianqi Chen, and Baris Kasikci. *MLSys*, May 2024.
- [17] Limoncello: Prefetchers for Scale. Akanksha Jain, Hannah Lin, Carlos Villavieja, Baris Kasikci, Chris Kennelly, Milad Hashemi, and Parthasarathy Ranganathan. *ASPLOS*, Apr 2024.
- [18] Proactive Runtime Detection of Aging-Related Silent Data Corruptions: A Bottom-Up Approach. Jiacheng Ma, Majd Ganaiem, Madeline Burbage, Theo Gregersen, Rachel McAmis, Freddy Gabbay, and Baris Kasikci. *ASPLOS*, Apr 2024.
- [19] RPG^2: Robust Profile-Guided Runtime Prefetch Generation. Yuxuan Zhang, Nathan Sobotka, Sooyeon Park, Saba Jamilan, Tanvir Ahmed Khan, Baris Kasikci, Gilles Pokam, Heiner Litz, and Joseph Devietti. *ASPLOS*, Apr 2024.
- [20] Siloz: Leveraging DRAM Subarray Groups to Prevent Inter-VM Rowhammer. Kevin Loughlin, Jonah Rosenblum, Stefan Saroiu, Alec Wolman, Dimitrios Skarlatos, and Baris Kasikci. *SOSP*, Oct 2023.
- [21] CrossTalk: Making Low-Latency Fault Tolerance Cheap by Exploiting Redundant Network. Andrew Loveless, Linh Thi Xuan Phan, Lisa Erickson, Ronald Dreslinski, and Baris Kasikci. *EMSOFT*, Sep 2023.
- [22] PCspoof: Compromising the Safety of Time-Triggered Ethernet. Andrew Loveless, Linh Thi Xuan Phan, Ronald Dreslinski, and Baris Kasikci. *IEEE S&P*, May 2023.
- [23] Vidi: Record Replay for Reconfigurable Hardware. Gefei Zuo, Jiacheng Ma, Andrew Quinn, and Baris Kasikci. *ASPLOS*, Mar 2023.
- [24] Whisper: Profile-Guided Branch Misprediction Elimination for Data Center Applications. Tanvir Ahmed Khan, Muhammed Ugur, Krishnendra Nathella, Dam Sunwoo, Heiner Litz, Daniel A Jiménez, and Baris Kasikci. *MICRO*, Oct 2022.
- [25] OCOLOS: Online COde Layout OptimizationS. Yuxuan Zhang, Tanvir Ahmed Khan, Gilles Pokam, Baris Kasikci, Heiner Litz, and Joseph Devietti. *MICRO*, Oct 2022.
- [26] Sift: Using Refinement-guided Automation to Verify Complex Distributed Systems. Haojun Ma, Hammad Ahmad, Aman Goel, Eli Goldweber, Jean-Baptiste Jeannin, Manos Kapritsos, and Baris Kasikci. *USENIX ATC*, Jul 2022.
- [27] Transcendent Debugging the OmniTable Way. Andrew Quinn, Michael Cafarella, Jason Flinn, and Baris Kasikci. *OSDI*, Jul 2022.

- [28] MOESI-prime: Preventing Coherence-Induced Hammering in Commodity Workloads. Kevin Loughlin, Stefan Saroiu, Alec Wolman, Yatin A. Manerkar, and Baris Kasikci. *ISCA*, Jun 2022.
- [29] Thermometer: Profile-Guided BTB Replacement for Data Center Applications. Shixin Song, Tanvir Ahmed Khan, Sara Mahdizadeh Shahri, Akshitha Sriraman, Niranjan K Soundararajan, Sreenivas Subramoney, Daniel A Jiménez, Heiner Litz, and Baris Kasikci. *ISCA*, Jun 2022.
- [30] APT-GET: Profile-Guided Timely Software Prefetching. Saba Jamilan, Tanvir Ahmed Khan, Grant Ayers, Baris Kasikci, and Heiner Litz. *EuroSys*, Apr 2022.
- [31] Debugging in the Brave New World of Reconfigurable Hardware. Jiacheng Ma, Gefei Zuo, Kevin Loughlin, Andrew Quinn, and Baris Kasikci. *ASPLOS*, Feb 2022.
- [32] Twig: Profile-Guided BTB Prefetching for Data Center Applications. Tanvir Ahmed Khan, Nathan Brown, Akshitha Sriraman, Niranjan Soundararajan, Rakesh Kumar, Joseph Devietti, Sreenivas Subramoney, Gilles Pokam, Heiner Litz, and Baris Kasikci. *MICRO*, Oct 2021.
- [33] PDede: Partitioned, Deduplicated, Delta Branch Target Buffer. Niranjan Soundararajan, Peter Braun, Tanvir Ahmed Khan, Baris Kasikci, Heiner Litz, and Sreenivas Subramoney. *MICRO*, Oct 2021.
- [34] DOLMA: Securing Speculation with the Principle of Transient Non-Observability. Kevin Loughlin, Ian Neal, Jiacheng Ma, Elisa Tsai, Ofir Weisse, Satish Narayanasamy, and Baris Kasikci. *USENIX Security*, Aug 2021.
- [35] DMon: Efficient Detection and Correction of Data Locality Problems using Selective Profiling. Tanvir Ahmed Khan, Ian Neal, Gilles Pokam, Barzan Mozafari, and Baris Kasikci. *OSDI*, Jul 2021.
- [36] Ripple: Profile-Guided Instruction Cache Replacement for Data Center Applications. Tanvir Ahmed Khan, Dexin Zhang, Akshitha Sriraman, Joseph Devietti, Gilles Pokam, Heiner Litz, and Baris Kasikci. *ISCA*, Jun 2021.
- [37] Reproducing Production Failures with Execution Reconstruction. Gefei Zuo, Jiacheng Ma, Andrew Quinn, Pramod Bhatotia, Pedro Fonseca, and Baris Kasikci. *PLDI*, Jun 2021.
- [38] IGOR: Accelerating Byzantine Fault Tolerance for Real-Time Systems with Eager Execution. Andrew Loveless, Ron Dreslinski, Baris Kasikci, and Linh Phan. *RTAS*, May 2021.
- [39] HIPPOCRATES: Healing Persistent Memory Bugs Without Doing Any Harm. Ian Neal, Andrew Quinn, and Baris Kasikci. *ASPLOS*, Apr 2021.
- [40] Rethinking File Mapping Structures for Persistent Memory. Ian Neal, Gefei Zuo, Eric Shipley, Tanvir Ahmed Khan, Youngjin Kwon, Simon Peter, and Baris Kasikci. *FAST*, Feb 2021.
- [41] Agamotto: How Persistent is your Persistent Memory Application? Ian Neal, Ben Reeves, Ben Stoler, Andrew Quinn, Youngjin Kwon, Simon Peter, and Baris Kasikci. *OSDI*, Nov 2020.
- [42] I-SPY: Context-Driven Conditional Instruction Prefetching with Coalescing. Tanvir Ahmed Khan, Akshitha Sriraman, Joseph Devietti, Gilles Pokam, Heiner Litz, and Baris Kasikci. *MICRO*, Oct 2020.
- [43] A Hypervisor for Shared-Memory FPGA Platforms. Jiacheng Ma, Gefei Zuo, Kevin Loughlin, Xiaohe Cheng, Yanqiang Liu, Abel Mulugeta Eneyew, Zhengwei Qi, and Baris Kasikci. *ASPLOS*, Mar 2020.
- [44] I4: Incremental Inference of Inductive Invariants for Verification of Distributed Protocols. Haojun Ma, Aman Goel, Jean-Baptiste Jeannin, Manos Kapritsos, Baris Kasikci, and Karem Sakallah. *SOSP*, Oct 2019.
- [45] NDA: Preventing Speculative Execution Attacks at Their Source. Ofir Weisse, Ian Neal, Kevin Loughlin, Thomas Wenisch, and Baris Kasikci. *MICRO*, Oct 2019.
- [46] Huron: Hybrid False Sharing Detection and Repair. Tanvir Ahmed Khan, Yifan Zhao, Gilles Pokam, Barzan Mozafari, and Baris Kasikci. *PLDI*, Jun 2019.

- [47] Morpheus: A Vulnerability-Tolerant Secure Architecture Based on Ensembles of Moving Target Defenses with Churn. Mark Gallagher, Lauren Biernacki, Shibo Chen, Zelalem Birhanu Aweke, Salessawi Ferede Yitbarek, Misiker Tadesse Aga, Austin Harris, Zhixing Xu, Baris Kasikci, Valeria Bertacco, Sharad Malik, Mohit Tiwari, and Todd Austin. *ASPLoS*, April 2019.
- [48] Breaking Virtual Memory Protection and the SGX Ecosystem with Foreshadow. Jo Van Bulck, Marina Minkin, Ofir Weisse, Daniel Genkin, Baris Kasikci, Frank Piessens, Mark Silberstein, Thomas F. Wenisch, Yuval Yarom, and Raoul Strackx. *IEEE Micro Top Picks*, 2019.
- [49] REPT: Reverse Debugging of Failures in Deployed Software. Weidong Cui, Xinyang Ge, Baris Kasikci, Ben Niu, Upamanyu Sharma, Ruoyu Wang, and Insu Yun. *OSDI*, Oct 2018.
- [50] Foreshadow: Extracting the Keys to the Intel SGX Kingdom with Transient Out-of-Order Execution. Jo Van Bulck, Marina Minkin, Ofir Weisse, Daniel Genkin, Baris Kasikci, Frank Piessens, Mark Silberstein, Thomas F. Wenisch, Yuval Yarom, and Raoul Strackx. *USENIX Security*, Aug 2018.
- [51] Cntr: Lightweight OS Containers. Jörg Thalheim, Pramod Bhatotia, Pedro Fonseca, and Baris Kasikci. *USENIX ATC*, Jun 2018.
- [52] Lazy Diagnosis of In-Production Concurrency Bugs. Baris Kasikci, Weidong Cui, Xinyang Ge, and Ben Niu. *SOSP*, Oct 2017.
- [53] Failure Sketching: A Technique for Automated Root Cause Diagnosis of In-Production Failures. Baris Kasikci, Benjamin Schubert, Cristiano Pereira, Gilles Pokam, and George Candea. *SOSP*, Oct 2015.
- [54] Automated Classification of Data Races for Both Strong and Weak Memory Models. Baris Kasikci, Cristian Zamfir, and George Candea. *ACM Transactions of Programming Languages and Systems*, 2015.
- [55] Efficient Tracing of Cold Code Via Bias-Free Sampling. Baris Kasikci, Thomas Ball, George Candea, John Erickson, and Madanlal Musuvathi. *USENIX ATC*, Jun 2014.
- [56] RaceMob: Crowdsourced Data Race Detection. Baris Kasikci, Cristian Zamfir, and George Candea. *SOSP*, Nov 2013.
- [57] Data Races vs. Data Race Bugs: Telling the Difference with Portend. Baris Kasikci, Cristian Zamfir, and George Candea. *ASPLoS*, Mar 2012.

TALKS

- Google Apr 2024
- Profile Guided Processors**
- Google Dec 2023
- Tackling Silent Data Corruptions in the Data Center**
- FOCI Summit (UW) Oct 2023
- The Quest Towards Efficient and Trustworthy Systems**
- ETH Zurich (Invited Talk, Workshop on Dependable and Secure Software Systems) Oct 2022
 - Ecole Polytechnique Fédérale de Lausanne (EPFL) May 2022
 - Cornell University April 2022
 - University of Washington April 2022
 - Carnegie Mellon University Feb 2022
 - University of Texas at Austin Feb 2022

• IEEE CITS (Keynote)	Nov 2021
• University of Wisconsin Madison (Invited Talk)	Sep 2021
• VMware (Invited Talk)	Jun 2021
• Intel (Invited Talk)	Jun 2021
Optimizing the Front-end Performance of Modern Datacenter Servers	
• Intel (Invited Talk)	Jun 2021
Eliminating the Instruction Bottleneck in Modern Data Center Applications	
• Intel (Invited Talk)	Mar 2021
Eliminating Speculative Execution Vulnerabilities	
• DARPA (Invited Talk)	Sep 2019
Towards Continuous In-Production Failure Diagnosis	
• Ohio State University (Invited Talk)	July 2018
• Greater Chicago Area Systems Research Workshop, University of Chicago (Invited Talk)	May 2018
• Purdue University (Invited Talk)	May 2018
Hardware-Software Co-Design for Debugging and Performance Analysis	
• Workshop on Resilient Systems, TU Dresden (Keynote)	Apr. 2017
Symbolic Execution: A Gentle Introduction	
• Cyber In Bretagne Summer School (Invited Talk)	Jul. 2016
Stamping Out Concurrency Bugs	
• Royal Holloway, University of London, Seminar	Apr. 2016
• Georgia Institute of Technology, Seminar	Apr. 2016
• Carnegie Mellon University, Seminar	Apr. 2016
• University of Southern California, Seminar	Mar. 2016
• University of Rochester, Seminar	Mar. 2016
• Microsoft Research Redmond, Seminar	Mar. 2016
• Microsoft Research Cambridge, Seminar	Mar. 2016
• MPI Software Systems, Seminar	Mar. 2016
• University College London, Seminar	Mar. 2016
• Rice University, Seminar	Feb. 2016
• University of Toronto, Seminar	Feb. 2016
• University of Michigan, Seminar	Feb. 2016
• Boston University, Seminar	Feb. 2016
• Georgia Institute of Technology, Seminar	Feb. 2016
• VMWare Research, Seminar	Feb. 2016
• University of British Columbia, Seminar	Feb. 2016
• Simon Fraser University, Seminar	Jan. 2016
Automated Root Cause Diagnosis of In-Production Failures	
• Symposium on Operating System Principles (SOSP)	Oct. 2015
• Intel Corp.	Sep. 2015
• Google	Sep. 2015

• VMware Inc.	Sep. 2015
Failure Sketches: A Better Way to Debug	
• EcoCloud Annual Event	Jun. 2015
• Hot Topics in Operating Systems (HotOS)	May 2015
Efficient Tracing of Cold Code via Bias-Free Sampling	
• USENIX Annual Technical Conference (USENIX ATC)	Jun. 2014
Lockout: Efficient Testing for Deadlock Bugs	
• Workshop on Determinism and Correctness in Parallel Programming (WoDet)	Mar. 2014
RaceMob: Crowdsourced Data Race Detection.	
• Symposium on Operating System Principles (SOSP)	Oct. 2013
• EPFL Systems Seminar	Oct. 2013
CoRD: A Collaborative Framework for Distributed Data Race Detection	
• Workshop on Hot Topics in System Dependability (HotDep)	Oct. 2012
Data Races vs. Data Race Bugs: Telling the Difference with Portend	
• International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)	Mar. 2012
How to Build Reliable Software?	
• Seminar talk to the incoming undergraduate students at EPFL	Sep. 2011

PROFESSIONAL SERVICE

PC/Area Chair

ASPLOS - Vice PC Chair	2026
MICRO - Datacenters, parallel architectures, Systems – Area Chair	2025
ICDCS - Operating Systems and Middleware - Track Chair	2025
ASPLOS Wild and Crazy Ideas Session (WACI)	2022
Workshop on Hot Topics In Operating Systems (HotOS)	2021
ACM Student Research Competition (ACM SRC), SOSP 2021	2021
EuroSys Doctoral Workshop (Euro'DW)	2021
International Conference on Virtual Execution Environments (VEE)	2020
Workshop on System Software for Trusted Execution (SysTEX) (co-located with CCS'18)	2018
Symposium on Cloud Computing (SoCC) Poster Session	2018

PC Member

IEEE MICRO Top Picks	2023
International Symposium on Computer Architecture (ISCA)	2023
Symp. on Operating System Design and Implementation (OSDI)	2020, 2021, 2022, 2023, 2024
Symp. on Operating Systems Principles (SOSP)	2019, 2023, 2024
Intl Conf. on Architectural Support for Programming Languages and Operating Systems (ASPLOS)	2021, 2022, 2023, 2025
International Conference on Learning Representations (ICLR)	2025
Programming Language Design and Implementation (PLDI)	2022
Intl. Symp. on Microarchitecture (MICRO)	2022, 2024
EuroSys	2019, 2021
Intl. Conf. on Virtual Execution Environments (VEE)	2019
Intl. Conf. on Distributed Computing Systems (ICDCS)	2017, 2019
EuroSys Roger Needham PhD Award Committee	2019, 2022
EuroSys Doctoral Workshop (EuroDW)	2018
Symp. on Cloud Computing (SoCC)	2018
World Wide Web Conference (WWW)	2017
Intl. Symp. on Software Testing and Analysis (ISSTA), Artifact Evaluation Committee	2014

Journal Reviewer

Transactions on Architecture and Code Optimization	2018
Transactions on Software Engineering	2015
Transactions on Software Engineering and Methodology	2015

Extended Review Committee

Intl. Symp. on Microarchitecture (MICRO)	2021
Intl. Symp. on Computer Architecture (ISCA)	2021
Intl. Conf. on Architectural Support for Programming Languages and Operating Systems (ASPLOS)	2018

Shadow PC Member

EuroSys Conference on Computer Systems (EuroSys)	2013, 2015
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External Reviewer

Symp. on Operating Systems Principles (SOSP)	2011, 2013
EuroSys Conf. on Computer Systems (EuroSys)	2011, 2012
USENIX Annual Technical Conf. (USENIX ATC)	2011
Intl. Conf. on Compiler Construction (CC)	2017
Workshop on Hot Topics in Operating Systems (HotOS)	2011, 2013
Conf. on Innovative Data Systems Research (CIDR)	2013
Intl. Conf. on Dependable Systems and Networks (DSN)	2011, 2013
Symposium on Cloud Computing (SOCC)	2012
Intl. SPIN Workshop on Model Checking of Software (SPIN)	2011

Committee Member

University of Michigan, Computer Science and Engineering, DEI Committee	2021, 2022
University of Michigan, Computer Science and Engineering, Graduate Admissions Committee	2017–2022
OSDI Mentorship Arrangement Committee	2021
EPFL Doctoral School of Computer and Communication Sciences Audit Committee	2015

Panelist

National Science Foundation	2019–Present
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TEACHING

Systems For All (CSE 550, UW) (graduate)	2023, 2025
Introduction to Operating Systems (EECS 482, Michigan) (undergraduate)	2018, 2019, 2021, 2022
Advanced Operating Systems (EECS 582, Michigan) (graduate)	2017, 2019, 2020, 2021

RESEARCH MENTORING**Postdoc**

Yigong Hu	Sep 2023–
Rohan Kadekodi	Sep 2023–

PhD

Yufei Gao	Sep 2025–
Steven Gao	Sep 2025–
Maddie Burbage	Sep 2023–
Matthew Giordano	Sep 2023–
Michael Gu	Sep 2023–
Keisuke Kamahori	Sep 2023–
Haoran Peng	Sep 2023–
Dedong Xie	Sep 2023–
Kan Zhu	Sep 2023–
Andrew Quinn	Sep 2020–Sep 2021
Marina Minkin	Sep 2020–Jan 2026
Gefei Zuo	Sep 2018–May 2024
Ian Neal	Sep 2018–Jun 2023
Jiacheng Ma	Sep 2018–Jan 2024

Andrew Loveless	Sep 2018–Apr 2023
Kevin Loughlin	Sep 2018–Aug 2023
Tanvir Ahmed Khan	Jan 2018–Jun 2023
Ofir Weisse	Sep 2017–May 2020

Master's	
Muhammed Ugur	Jan 2021–Jan 2023

Undergraduate

Yi Pan	Mar 2025–
Qinyu Xu	Mar 2024–
Haodong Zheng	Jan 2024–
Yiyu Liu	Jan 2024–

Alumni

Yilong Zhao	BSc → UC Berkeley PhD, 2024
Qinyu Xu	BSc → Purdue PhD, 2024
Isaac Hou	BSc → Michigan PhD, 2024
Tanvir Ahmed Khan	PhD → Assistant Professor, Columbia University, 2024
Jiacheng Ma	PhD → Software Engineer, AMD, 2024
Kevin Loughlin	PhD → Software Engineer, Google, 2023
Ian Neal	PhD → R&D Engineer, Veridise, 2023
Andrew Loveless	PhD → Research, NASA, 2023
Shuwen Deng	PhD → Postdoc, Tsinghua University, 2023
Michael Gu	MSc → UW PhD, 2023
Kan Zhu	BSc → UW PhD, 2023
Diane Chiang	BSc → UW MSc, 2023
Shixin Song	BSc → MIT PhD, 2022
Haoyang Zhang	BSc → UIUC PhD, 2022
Muhammed Ugur	BSc → Yale PhD, 2022
Andrew Quinn	PhD → Assistant Professor, UCSC, 2021
Nathan Brown	MSc → ARM, 2021
Ben Stoler	MSc → CMU PhD, 2021
Yineng Yan	MSc → UT Austin PhD, 2021
Morgan Borjigin-Wang	MSc → Google, 2021
Ashfaqur Rahaman	BSc → University of Utah PhD, 2021
Dexin Zhang	MSc → USTC PhD, 2021
Zhiqi Chen	BSc → CMU MSc, 2020
Yongwei Yuan	BSc → Purdue PhD, 2020
Ruiyang Zhu	BSc → Michigan PhD, 2020
Elisa Tsai	BSc → Michigan PhD, 2020
Ben Reeves	MSc → Qumulo, 2020
Ofir Weisse	PhD → Google, 2020
Upamanyu Sharma	BSc → MIT PhD, 2020
Yimeng Zhou	BSc → Google, 2020
Xiaohe Cheng	BSc → Google, 2019
John Wu	MSc → Apple, 2019
Liran Xiao	BSc → UCLA MSc, 2019
Yifan Dai	BSc → University of Wisconsin PhD, 2019
Yifan Zhao	BSc → UIUC PhD, 2019

PATENTS

Reverse Debugging of Software Failures

US Patent Number 10,565,511

LANGUAGES

English: fluent

French: fluent

Turkish: native

German: beginner