

Johann-Alexander Hauswald

Email: jahausw@umich.edu

Website: <https://jhauswald.com>

Research interests	System design for emerging applications, optimization tools and techniques for machine learning, performance efficiency for edge devices.		
Education	University of Michigan Ph.D. in Computer Science and Engineering Thesis: System Design for Intelligent Web Services M.S. in Computer Science and Engineering B.S.E. in Electrical Engineering	Ann Arbor, MI	2017 2015 2013
Awards	IEEE Micro Top Picks for Sirius (ASPLOS'15) TOCS publication Sirius (ASPLOS'15) Qualcomm Innovation Fellowship (QInF) Finalist Best Paper nomination Sirius (ASPLOS'15)	2016 2016 2016 2015	
Publications	Optimizing Video Analytics with Declarative Model Relationships F. Romero, J. Hauswald , A. Partap, D. Kang, M. Zaharia, C. Kozyrakis. VLDB, 2023		
	Outlier Detection for Improved Data Quality and Diversity in Dialog Systems S. Larson, A. Mahendran, A. Lee, J. Kummerfeld, P. Hill, M. Laurenzano, J. Hauswald , L. Tang, J. Mars. NAACL-HLT, 2019		
	Data Collection for a Production Dialogue System: A Clinic Perspective Y. Kang, Y. Zhang, J. Kummerfeld, P. Hill, J. Hauswald , M. Laurenzano, L. Tang, J. Mars. NAACL-HLT, 2018		
	Neurosurgeon: Collaborative Intelligence Between the Cloud and Mobile Edge Y. Kang, J. Hauswald , C. Gao, A. Rovinski, T. Mudge, J. Mars, L. Tang. ASPLOS, 2017		
	Designing Future Warehouse Scale Computers for Sirius, An End-to-end Voice and Vision Personal Assistant J. Hauswald , M. Laurenzano, Y. Zhang, H. Yang, Y. Kang, C. Li, A. Rovinski, A. Khurana, R. Dreslinski, T. Mudge, V. Petrucci, L. Tang, J. Mars. TOCS, 2016 <i>Invited Paper</i>		
	Sirius Implications for Future Warehouse-Scale Computers J. Hauswald , M. Laurenzano, Y. Zhang, C. Li, A. Rovinski, A. Khurana, R. Dreslinski, T. Mudge, V. Petrucci, L. Tang, J. Mars. IEEE Micro Top Picks, 2015		
	DjiNN and Tonic: DNN as a Service and Its Implications for Future Warehouse Scale Computers		

J. Hauswald, Y. Kang, M. Laurenzano, Q. Chen, C. Li, T. Mudge, R. Dreslinski, J. Mars, L. Tang.
ISCA, 2015

Sirius: An Open End-to-end Voice and Vision Personal Assistant and Its Implications for Future Warehouse Scale Computers

J. Hauswald, M. Laurenzano, Y. Zhang, C. Li, A. Rovinski, A. Khurana, R. Dreslinski, T. Mudge, V. Petrucci, L. Tang, J. Mars.

ASPLOS, 2015

Selected for Micro Top Picks, Selected as Invited Paper in the ACM Transactions on Computer Systems, Best Paper Nominee

A Hybrid Approach to Offloading Mobile Image Classification

J. Hauswald, T. Manville, Q. Zheng, R. Dreslinski, C. Chakrabarti, T. Mudge.

ICASSP, 2014

Patents

Systems and methods for machine learning-based multi-intent segmentation and classification.

J. Peper, P. Hill, K. Leach, S. Stapleton, J. Kummerfeld, **J. Hauswald**, M. Laurenzano, L. Tang, J. Mars.

US Patent 10,824,818. 2020.

Systems and methods for constructing an artificially diverse corpus of training data samples for training a contextually-biased model for a machine learning-based dialogue system.

A. Lee, S. Larson, C. Clarke, K. Leach, J. Kummerfeld, P. Hill, **J. Hauswald**, M. Laurenzano, L. Tang, J. Mars.

US Patent 10,796,104. 2020.

Systems and methods for intelligently configuring and deploying a machine learning-based dialogue system.

J. Mars, L. Tang, M. Laurenzano, **J. Hauswald**, P. Hill, Y. Kang, Y. Zhang.

US Patent 10,740,371, 10,769,384. 2020.

Systems and methods for automatically configuring training data for training machine learning models of a machine learning-based dialogue system including seeding training samples or curating a corpus of training data based on instances of training data identified as anomalous.

S. Larson, A. Mahendran, A. Lee, J. Kummerfeld, P. Hill, M. Laurenzano, **J. Hauswald**, L. Tang, J. Mars.

US Patent 10,679,150. 2020.

System and method for implementing an artificially intelligent virtual assistant using machine learning.

J. Mars, L. Tang, M. Laurenzano, **J. Hauswald**, P. Hill.

US Patent 10,572,801. 2020.

Systems and methods for intelligently curating machine learning training data and improving machine learning model performance.

Y. Kang, Y. Zhang, J. Kummerfeld, P. Hill, **J. Hauswald**, M. Laurenzano, L. Tang, J. Mars.

US Patent 10,303,978, 10,679,100. 2019.

Systems and method for automatically configuring machine learning models.

J. Mars, L. Tang, M. Laurenzano, **J. Hauswald**.

US Patent 10,296,848. 2019.

Tutorials

Workshop on Video Analytics

M. Daum, **J. Hauswald**, F. Romero, M. Zaharia, C. Kozyrakis.

Stanford, 2022

Tail Latency Measurement at Microsecond-Level Precision

Y. Zhang, **J. Hauswald**, D. Meisner, J. Mars, L. Tang.

ASPLOS, 2017

Sirius and Djinn: Infrastructures to Study Emerging Intelligent Web Services

J. Hauswald, M. Laurenzano, Y. Kang, Y. Zhang, L. Tang, J. Mars.

HPCA, 2016

Sirius: An Open End-to-End Voice and Vision Personal Assistant like Apple's Siri, Google's Now, Microsoft's Cortana, and Amazon's Echo

J. Hauswald, M. Laurenzano, Y. Kang, Y. Zhang, L. Tang, J. Mars.

ASPLOS, 2015

Experience

Stanford

Postdoctoral Researcher

Palo Alto, CA

Sep 2021 - Current

Sutter Hill Ventures

Postdoctoral Researcher in Residence

Palo Alto, CA

Sep 2021 - Oct 2022

Clinc, Inc.

Chief Architect & Cofounder

Chief Customer Officer & Cofounder

Chief Product Officer & Cofounder

Chief Architect & Cofounder

Ann Arbor, MI

Oct 2020 - Feb 2021

Mar 2020 - Sep 2020

Aug 2018 - Mar 2020

Jul 2015 - Jul 2018

TRon Lab & Clarity Lab

Graduate Student Research Assistant

Ann Arbor, MI

2013 - 2017

Cassidian Air Systems

Software Engineer, Sensor & Weapons Integration Group

Munich, Germany

Summer 2012

Lynx Technik AG

Summer Intern, R&D Department

Darmstadt, Germany

Summer 2011

Grants

Senior Personnel, National Science Foundation Small Business Innovation Research (NSF SBIR Phase II) program award #1738441: *Pushing the Boundaries of Intelligent Assistants for Financial Services (\$750k)*, 2017 – 2019

Senior Personnel, Michigan Emerging Technologies Fund (MI ETF) supplement to NSF SBIR Phase II award #1738441 (\$125k), 2017 – 2019

Senior Personnel, National Science Foundation Small Business Innovation Research (NSF SBIR Phase I) program award #1622049: *An Open Source Platform for Intelligent Personal Assistants (\$225k)*, 2016 – 2017

Service	Detroit Area Pre-College Engineering Program (DAPCEP) Volunteer Instructor - Intro to CS and AI CGO Workshop & Tutorials Chair ASPLOS Shadow PC Co-organizer ASPLOS External Reviewer ISCA External Reviewer MICRO External Reviewer EuroSys Shadow PC CGO-PPoPP Artifact Evaluation Committee UMich CSE Lunch & Lab Mentoring	2020, 2021 2020 2018 2015, 2016, 2017, 2018, 2019 2015, 2016, 2018, 2019 2015, 2016 2017 2017 2016, 2017
Mentorship	Austin Rovinski (PhD, University of Michigan) Cheng Li (PhD, UIUC) Yunsheng Bai (PhD, UCLA) Xiaowei Wang (PhD, University of Michigan) Peifeng Yu (PhD, University of Michigan) Arjun Khurana (MS, University of Michigan) Yifan Hao (MS, UIUC) Zihuan Diao (MS, Stanford) Ali Turfah (MS, Columbia) Moeiz Riaz (Intel)	