

TechWorld 2025: Big Data, Computer Science and Information Technologies

Conference Proceedings

August 26, 2025 - Virtual

Optimizing Deep Learning Models for Hardware Efficiency on Edge Platforms

Kaiqi Zhao

Tenure-track assistant professor in the Computer Science and Engineering Department at Oakland University, Michigan, USA

Dr. Kaiqi Zhao is a tenure-track Assistant Professor in the Department of Computer Science and Engineering at Oakland University, Michigan, where she has been serving since August 2024. She is the founder and director of the Efficient AI Lab, which focuses on designing scalable, high-performance, and hardware-efficient machine learning models to enable intelligent computing on edge devices.

Dr. Zhao earned her Ph.D. from the School of Computing and Augmented Intelligence at Arizona State University under the mentorship of Prof. Ming Zhao. Her research centers on model compression and efficient deep learning, with the goal of advancing the automation and deployment of compact, high-performing AI models for real-world applications.

Her work bridges both fundamental research and practical impact. As the first author, she has published in top-tier AI and edge computing venues such as AISTATS, ICASSP (Oral), Interspeech (Oral), and ACM/IEEE SEC (Best Poster Award). She has also co-authored papers in leading systems and edge computing conferences, including IEEE ICDCS, USENIX HotEdge, and USENIX OpML. Notably, her research on Knowledge Distillation via Module Replacing for Automatic Speech Recognition has been integrated into the Amazon Alexa library for production use.

Dr. Zhao is a dedicated contributor to the research community. She currently serves as a reviewer for the U.S. National Science Foundation (NSF, 2025) and as a Program Committee (PC) member for AAAI (2023–2025). She was also the Ph.D. Forum Chair for ACM/IEEE SEC in 2021. In addition, she regularly reviews for premier AI conferences including NeurIPS, ICML, ICLR, AAAI, AISTATS, ICASSP, and Interspeech (2022–2025), and top-tier journals such as the IEEE Internet of Things Journal (IF: 11.1), IEEE Transactions on Neural Networks and Learning Systems (IF: 10.2), IEEE Transactions on Circuits and Systems for Video Technology (IF: 8.3), and IEEE Transactions on Intelligent Vehicles (IF: 8.2).

Dr. Zhao's research is driven by a passion for building intelligent systems that are not only powerful but also efficient and deployable—paving the way for next-generation AI solutions on edge platforms.