Yifan Zhao

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Current Research

I am a research assistant in the Department of Computer Science at the University of Illinois at Urbana-Champaign, co-advised by Prof. Vikram Adve and Prof. Sasa Misailovic.
I am interested in researches in compiler and approximate computing in heterogeneous parallel systems. My current and recent research projects include:

Domain extensibility of ApproxHPVM ApproxHPVM is an accuracy-aware compiler infrastructure that uses domain-specific (DNN, image processing, etc.) intrinsics to reason about the program. We explore how ApproxHPVM is applicable to a domain after defining the intrinsics for this domain once.

Efficient handling of approximated neural networks by embedding Due to the size of neural networks, keeping a version of the network for each combination of approximation can be costly. We provide a novel technique to reduce the overhead in storing and switching between versions of network by embedding some networks in others.

Education

University of Illinois at Urbana-Champaign *Champaign, U.S.*

Ph.D. Student in Computer Science Sep. 2019 – Present

University of Michigan *Ann Arbor, U.S.*

B.S.E. in Computer Science Sep. 2017 – Apr. 2019
Graduated with Summa Cum Laude

Shanghai Jiaotong University *Shanghai, China*

B.S. in Electrical and Computer Engineering Sep. 2015 – Aug. 2019

Publications

- **Huron: Hybrid False Sharing Detection and Repair.**

  Tanvir Ahmed Khan*, **Yifan Zhao***, Gilles Pokam, Barzan Mozafari, Baris Kasikci. *Programming Language Design and Implementation (PLDI) 2019, Phoenix, AZ, USA.*

- **ApproxTuner: A Compiler and Runtime System for Adaptive Approximations.**

  Hashim Sharif, Maria Kotsifakou, **Yifan Zhao**, Elizabeth Wang, Yasmin Sarita, Benjamin Schreiber, Keyur Joshi, Nathan Zhao, Vikram Adve, Sasa Misailovic, Sarita Adve. *Programming Language Design and Implementation (PLDI) 2020, London, United Kingdom.* Currently under review.

- **Efficient Profile-Guided Data Locality Optimizations.**

  Tanvir Ahmed Khan, Ian Neal, **Yifan Zhao**, Gilles Pokam, Barzan Mozafari, Baris Kasikci. *Programming Language Design and Implementation (PLDI) 2020, London, United Kingdom.* Currently under review.

Awards and Honors

- James B. Angell Scholarship, Winter 2019
- University of Michigan Dean's List & University Honors (Fall 2017, Winter 2018, Fall 2018, Winter 2019)
- UM-SJTU Joint Institute Dean's List (Fall 2015, Fall 2016)