

Shixin Song

+1 734 546 8569 | shixins@umich.edu | zhizhuoxin.github.io

EDUCATION

University of Michigan

Bachelor of Science in Computer Science

Ann Arbor, U.S.

2020 - Present

Shanghai Jiao Tong University

Bachelor of Science in Electrical and Computer Engineering

Shanghai, China

2018 - 2020

RESEARCH

Thermometer | CPU, Optimization

2021

- **Motivation:** Fetch Directed Instruction Prefetching (FDIP) is widely used in modern data center applications to reduce frontend stalls, but it is bottlenecked by branch target buffer (BTB) misses.
- **Work:** Characterized limitations of prior works on reducing BTB misses. Proposed a novel profile-guided BTB replacement policy (Thermometer) to reach near-ideal performance. The preliminary result is in submission.

Proxyweb | Hardware optimization

2021

- **Motivation:** Hardware design evolves relatively slower than web applications. The goal is to provide hints on future behavior of widely used web applications for hardware optimization.
- **Work:** Characterize several widely used applications in different area and identify behavior trends through different versions.

AWARDS AND HONORS

Roger King Scholarship

University of Michigan

2021

Ann Arbor, U.S.

Dean's List

University of Michigan

2020, 2021

Ann Arbor, U.S.

SJTU Undergraduate Excellent Scholarship

Shanghai Jiao Tong University

2019, 2020

Shanghai, China

Fuda Scholarship

Shanghai Jiao Tong University

2019

Shanghai, China

EXPERIENCE

Undergraduate Research Assistant

University of Michigan

2021

Ann Arbor, U.S.

- **Advisor:** Prof. Baris Kaskci
- **Research projects:** Thermometer and Proxyweb

Grader

University of Michigan

2021

Ann Arbor, U.S.

- Introduction to Computer Organization (EECS370)

Teaching Assistant

Shanghai Jiao Tong University

2019 - 2021

Shanghai, China

- Introduction to Computers and Programming (VG101)
- Introduction to Engineering (VG100)
- Honors Mathematics II (VV186)

Student Advisor

Shanghai Jiao Tong University

2019

Shanghai, China

Volunteer Teaching

Sanhe Junior School

2018 - 2019

Yunnan, China

- Math classes for grade 7 students