

YIXUAN CHEN

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SUMMARY

- Proven researcher skilled in building high-performance, correctness-guaranteed concurrency libraries
- Accomplished programmer with extensive expertise in algorithms, operating systems, and systems programming
- Collaborative team player with strong coordination and communication skills

EDUCATION

Yale University, New Haven, CT August 2019 - present
Ph.D., Computer Science

Selected Courses: Distributed Systems, Artificial Intelligence, Big Data Systems, Economics and Computation

University of Michigan, Ann Arbor, MI September 2017 - May 2019

B.S.E., Computer Science

Awards: James B. Angell Scholar, University Honors, Dean's Honor List

Shanghai Jiaotong University, Shanghai, China

September 2015 - August 2019

B. E., Electrical and Computer Engineering

Attended the dual-degree program between SJTU and University of Michigan

TECHNICAL SKILLS

- Programming Languages: C, C++, C#, Python, JavaScript, Bash, OCaml, Rocq (Coq), FStar, Dafny, Verilog
- Areas of Expertise: Operating Systems, Concurrency, Non-volatile Memory, Distributed Systems, Compilers
- Tools: Linux, Docker, AWS, Git, LaTeX

RESEARCH AND WORK EXPERIENCE

Yale University, *Graduate Researcher*, New Haven, CT August 2019 - present

- Designing formal models and building program logics for low-level concurrency
- Applying the above framework to concurrency libraries like pthread, ensuring correctness and performance
- Published papers on POPL (<https://doi.org/10.1145/3571231>) and OOPSLA (<https://doi.org/10.1145/3689792>)

MPI-SWS, *Research Intern*, Saarbrücken, Germany June 2021 - August 2021

- Analyzed libraries and usage patterns of non-volatile memory devices
- Developed and applied a novel separation logic to validate crash-resilient concurrency libraries

University of Michigan, *Undergraduate Research Assistant*, Ann Arbor, MI September 2017 - May 2019

- Developed the first automatic verification toolchain for weak memory concurrent programs
- Improved the toolchain's scalability by combining certified static analyzers with SMT solvers
- Received Distinguished Paper Award in PLDI (<https://doi.org/10.1145/3385412.3385971>)

Apple, *Hardware Testing Intern*, Shanghai, China February 2016 - August 2017

- Developed efficient software systems for aggregated auditing and version control of test stations
- Coordinated with teams across Asia-Pacific region to maintain and update system capabilities

TEACHING EXPERIENCE

Yale University, *Teaching Assistant*, New Haven, CT 2020 - 2024

University of Michigan, *Teaching Assistant*, Ann Arbor, MI 2018 - 2019

- Conducted weekly TA sessions to undergraduate and graduate students
- Mentored students on advanced operating systems and compiler concepts

SKILLS AND INTERESTS

- Competitive programming and algorithms (Silver Medal, Chinese National Olympiad in Informatics 2014)
- AI-assisted proof generation and provably-correct agentic AI