

YUHAN DENG

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EDUCATION

Stanford University

Ph.D. in Computer Science

Advisor: Keith Winstein

Sep 2020 – June 2026 (expected)

Cornell University

Bachelor of Arts in Computer Science and Mathematics

Cumulative GPA: 4.054/4.3, Major GPA: 4.132/4.3

August 2016 – May 2020

PUBLICATIONS

Yuhan Deng, Angela Montemayor, Amit Levy, and Keith Winstein, “Computation-Centric Networking,” The 21st ACM Workshop on Hot Topics in Networks (HotNets ’22), Austin, Texas, 2022.

RESEARCH EXPERIENCE

Stanford University

Ph.D. Student

- Leader of the Fixpoint project, building a framework for computation-centric networking that runs deterministic procedures in an environment of well-specified dependencies. Fixpoint aims to benefit serverless service providers and users by proposing a service model of centered around “paying for results,” i.e. correct answers to computations, rather than “paying for effort.”
- Fixpoint represents computations in WebAssembly and implements an in-memory live toolchain that transforms Wasm modules to executable x86 codelets.

Microsoft Research

Research Intern

June 2023 – September 2023

- Research intern in the Networking Research Group at Microsoft Research, mentored by Sadjad Fouladi.
- Worked on designing a service for burst-parallel applications that offers the elasticity of current serverless offerings with the capabilities for applications to better utilize locality and topology information.

Cornell University

Undergraduate Research

- Implemented the persistent layer of Derecho, a distributed object store utilizing SPDK NVMe driver. Designed data structures to support features such as atomicity and collocation of multiple persistent logs (with Prof. Ken Birman).
- Explored the possibility of pipelining read phase and validation phase, and case-sensitive exponential backoff strategy in Fabric, a PL designed for building secure distributed systems. Implemented a tunable model to mimic real-world performance (with Prof. Andrew Myers).

TEACHING EXPERIENCE

Stanford University

Course Assistant

- CS 144: Introduction to Computer Networking (Spring 2023)
- CS 149: Parallel Computing (Spring 2021)

Cornell University

Teaching Assistant

- CS 3110: Functional Programming (Fall 2019, Fall 2018)
- CS 4160: Formal Verification (Spring 2019)
- CS 2110: Object-Oriented Programming and Data Structures (Spring 2018, Fall 2017)

HONORS AND AWARDS

Summa Cum Laude in Computer Science, Cornell, 2020

Magna Cum Laude in Mathematics, Cornell, 2020

Best Design/UI and Best Microsoft Hack, Big Red Hack, 2017