Deepti Raghavan

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Experience

2024-Present **Assistant Professor of Computer Science**, *Brown University*.

Education

2018-2024 **Ph.D. Candidate in Computer Science**, *Stanford University*.
- Advisors: Matei Zaharia and Philip Levis
- Thesis: Efficient Serialization for Datacenter Applications

2017-2018 **Masters of Engineering**, *Massachusetts Institute of Technology*.
- Advisor: Hari Balakrishnan
- Thesis Title: Designing a Congestion Control Plane Datapath with QUIC

2013-2017 **B.S. in Computer Science**, *Massachusetts Intitute of Technology*.

Publications

Conference Papers

SOSP 2023 **Cornflakes: Zero-Copy Serialization for Microsecond-Scale Networking**.
Deepti Raghavan, Shreya Ravi, Gina Yuan, Pratiksha Thaker, Sanjari Srivastava, Micah Murray, Pedro Henrique Penna, Amy Ousterhout, Philip Levis, Matei Zaharia, Irene Zhang.
Awarded Distinguished Artifact

SIGGRAPH 2022 **R2E2: Low-Latency Path Tracing of Terabyte-Scale Scenes using Thousands of Cloud CPUs**.
Sadjad Fouladi, Brennan Shacklett, Fait Poms, Arjun Arora, Alex Ozdemir, **Deepti Raghavan**, Pat Hanrahan, Kayvon Fatahalian, Keith Winstein.

SOCC 2021 **Clamor: Extending Functional Cluster Computing Frameworks with Fine-Grained Remote Memory Access**.
Pratiksha Thaker, Hudson Ayers, **Deepti Raghavan**, Ning Niu, Philip Levis, Matei Zaharia.

Usenix ATC 2020 **Posh: A Data-Aware Shell**.
Deepti Raghavan, Sadjad Fouladi, Philip Levis, Matei Zaharia.
Featured in Winter 2020 Usenix ;login: article.

MLSys 2020 **Model Assertions for Monitoring and Improving ML Models**.
Daniel Kang*, **Deepti Raghavan***, Peter Bailis, Matei Zaharia.

SIGCOMM 2018 **Restructuring Endpoint Congestion Control**.
Akshay Narayan, Frank Cangialosi, **Deepti Raghavan**, Prateesh Goyal, Srinivas Narayana, Radhika Mittal, Mohammad Alizadeh, Hari Balakrishnan.

Usenix ATC 2018 **Pantheon: the training ground for Internet congestion-control research**.
Francis Yan, Jestin Ma, Greg Hill, **Deepti Raghavan**, Riad Wahby, Philip Levis, Keith Winstein.
Awarded Best Paper

Peer Reviewed Workshop Papers

EuroMLSys 2024 **ALTO: An Efficient Network Orchestrator for Compound AI Systems.**.
Keshav Santhanam*, **Deepti Raghavan***, Muhammad Shahir Rahman, Thejas Venkatesh, Neha Kunjal, Pratiksha Thaker, Philip Levis, Matei Zaharia.

HotOS 2021 **Breakfast of Champions: Towards Zero-Copy Serialization with NIC Scatter-Gather**.
Deepti Raghavan, Philip Levis, Matei Zaharia, Irene Zhang.

Model Assertions for Debugging Machine Learning.
Daniel Kang*, **Deepti Raghavan***, Peter Bailis, Matei Zaharia.
ICLR DebugML Workshop 2019 (oral, Awarded Best Student Research Paper)
Systems for ML Workshop at Neurips 2018 (oral)

Awards

2023 Stanford Computer Science Student Service Award

2019-2023 National Science Foundation Graduate Fellowship

2018-2019 Stanford Engineering Fellowship

Teaching

Winter 2022 **Stanford Principles of Data-Intensive Systems**, *Course Assistant*.
Instructor: Matei Zaharia

Fall 2021 **Stanford Introduction To Computer Networking**, *Course Assistant*.
Instructor: Keith Winstein

Spring 2018 **MIT Distributed Systems**, *Teaching Assistant*.
Instructors: Robert Morris, Malte Schwarzkopf

Fall 2016 **MIT Introduction to EECS II**, *Lab Assistant*.
Instructor: Katrina LaCurts

Spring 2015 **MIT Computation Structures**, *Lab Assistant*.
Instructor: Chris Terman

Industry Experience

2022 Mar-Jun **Microsoft Research**, *Intern*, Systems Research Group.
Internship Mentor: Irene Zhang
- Continued PhD work to build serialization system that offloads data movement into existing hardware by utilizing NIC scatter-gather capabilities; work accepted at SOSP 2023.

2020 Jun-Sep **Microsoft Research**, *Summer Intern*, Systems Research Group.
Internship Mentor: Irene Zhang
- Researched how data serialization protocols should be designed to keep up with the throughput of modern networks; led to HotOS 2021 paper.

2016 Jun-Aug **Cisco Meraki**, *Summer Intern*, Switch Team.
- Implemented and pushed out the Radius Change of Authorization feature (CoA), an extension to the 802.1X authorization protocol, on Meraki's switch firmware.

2015 Jun-Aug **Akamai**, *Summer Intern*, Platform Infrastructure Team.
- Created interactive web application, with d3.js and web.py, that visualizes information related to the software installations performed across all of Akamai's networks; used by an internal team

2014 Jun-Aug **IBM India Research Labs Bangalore**, *Summer Intern*.

- Designed fluid simulation for an Android application that models a virtual chemistry laboratory, using OpenGL.

Service

Mentorship

2020-2022 **Micah Murray**, *Stanford Undergraduate (now Berkeley PhD student)*.

2022-2023 **Shreya Ravi**, *Stanford Co-term Student*.

2022 Sep-Dec **Sanjari Srivastava**, *Stanford Masters Student*.

Professonal Service

2022-2023 **Stanford Application Support Program in Computer Science (SASP)**, *Co-Organizer*.

2020-2022 **Stanford Systems Seminar**, *Co-Organizer*.

2019-2021 **Stanford Women's Lunch**, *Co-Organizer*.

2020 **Stanford PhD Admissions Committee**, *Member*.