Dr. Srinivas Narayana

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RESEARCH INTERESTS

Computer networks, software-defined networks, high-performance packet processing.

EDUCATION

Princeton University, M.A/Ph.D. in Computer Science	. Sep '10-May '16
Thesis "Declarative network path queries" advised by Prof. Jennifer Rexford. GPA 3.97/4	

Indian Institute of Technology Madras, B.Tech in Computer Science with Minor in Physics Aug '06–May '10 GPA 9.66/10. Thesis "Stability of rate control protocols" advised by Prof. Gaurav Raina

WORK EXPERIENCE

Rutgers University, New Brunswick, NJ
Assistant Professor, Department of Computer Science
Massachusetts Institute of Technology, Cambridge, MA
Microsoft, Redmond, WAJul–Sep '14 Software engineering intern, Azure network security
Google, Mountain View, CA
Princeton University , Princeton, NJ
IBM Research, Bangalore, IndiaJun–Aug '09
Research intern, Next-generation telecommunications

AWARDS, PRIZES, AND RECOGNITION

- Distinguished paper award, Code Generation and Optimization conference (CGO), '22
- Winner of Nvidia North America DPU hackathon '21 (12 competing teams across the USA)
- Best paper award, ACM SIGCOMM '17
- Honorable mention, Microsoft Research graduate student summit on networks, mobility, and systems '16
- Runner-up, Open Networking Users Group (ONUG) hackathon '14
- Princeton Graduate Research Fellowship '10-'11
- 7th place (of \approx 50), Regional ACM International Collegiate Programming Contest (ICPC), Kanpur '08
- Finalist, Google India Product Prodigy Contest '08
- 20th place (of \approx 50), Regional ACM International Collegiate Programming Contest (ICPC), Amritapuri '07

CONFERENCE PUBLICATIONS

• Rohan Gandhi and Srinivas Narayana, "KnapsackLB: Enabling Performance-Aware Layer-4 Load Balancing," in ACM CoNEXT (Proceedings of ACM Networking PACMNet), 2025.

- Qiongwen Xu, Sebastiano Miano, Xiangyu Gao, Tao Wang, Adithya Murugadass, Songyuan Zhang, Anirudh Sivaraman, Gianni Antichi, and Srinivas Narayana, "State-Compute Replication: Parallelizing High-Speed Stateful Packet Processing," in Usenix Symposium on Networked Systems Design and Implementation (NSDI), 2025.
- Matan Shachnai, Harishankar Vishwanathan, Srinivas Narayana, and Santosh Nagarakatte, "Fixing Latent Unsound Abstract Operators in the eBPF Verifier of the Linux Kernel," in **Static Analysis Symposium (SAS)**, 2024.
- Harishankar Vishwanathan, Matan Shachnai, Srinivas Narayana, and Santosh Nagarakatte, "Verifying the verifier: eBPF range analysis verification," in **Computer-Aided Verification (CAV)**, 2023. Also accepted for presentation at the Linux Plumbers Conference networking track in 2023.
- Xiangyu Gao, Divya Raghunathan, Ruijie Fang, Tao Wang, Xiaotong Zhu, Anirudh Sivaraman, Srinivas Narayana, and Aarti Gupta, "Optimizing compilers for packet-processing pipelines," in ASPLOS, 2023.
- Prateesh Goyal, Akshay Narayan, Frank Cangialosi, Srinivas Narayana, Mohammad Alizadeh, and Hari Balakrishnan, "Elasticity detection: a building block for Internet congestion control," in ACM SIGCOMM, 2022.
- Frank Cangialosi, Neil Agarwal, Venkat Arun, Junchen Jiang, Srinivas Narayana, Anand Sarwate, and Ravi Netravali, "Privid: Practical, privacy-preserving video analytics queries," in Usenix Symposium on Networked Systems Design and Implementation (NSDI), 2022.
- Harishankar Vishwanathan, Matan Shachnai, Srinivas Narayana, and Santosh Nagarakatte, "Sound, Precise, and Fast Abstract Interpretation with Tristate Numbers," in **Symposium on Code Generation and Optimization** (CGO), 2022. Winner of distinguished paper award.
- Yiming Qiu, Jiarong Xing, Kuo-Feng Hsu, Qiao Kang, Ming Liu, Srinivas Narayana, and Ang Chen, "Automated SmartNIC Offloading Insights for Network Functions," in ACM Symposium on Operating Systems Principles (SOSP), 2021.
- Qiongwen Xu, Michael Dean Wong, Tanvi Wagle, Srinivas Narayana, and Anirudh Sivaraman, "Synthesizing safe and efficient kernel extensions for packet processing," in **ACM SIGCOMM**, 2021. Also accepted for presentation at the Linux Plumbers Conference networking track in 2021.
- Xiangyu Gao, Taegyun Kim, Michael Dean Wong, Divya Raghunathan, Aatish Kishan Varma, Pravein Govindan Kannan, Anirudh Sivaraman, Srinivas Narayana, and Aarti Gupta, "Switch Code Generation using Program Synthesis," in **ACM SIGCOMM**, 2020.
- Akshay Narayan, Frank Cangialosi, Deepti Raghavan, Prateesh Goyal, Srinivas Narayana, Radhika Mittal, Mohammad Alizadeh, and Hari Balakrishnan, "Restructuring endpoint congestion control," in **ACM SIGCOMM**, 2018.
- Srinivas Narayana, Anirudh Sivaraman, Vikram Nathan, Prateesh Goyal, Venkat Arun, Mohammad Alizadeh, Vimalkumar Jeyakumar, and Changhoon Kim, "Language-directed hardware design for network performance monitoring," in ACM SIGCOMM, 2017. Winner of the best paper award.
- Vibhaalakshmi Sivaraman, Srinivas Narayana, Ori Rottenstreich, S. Muthukrishnan, and Jennifer Rexford, "Heavy-hitter detection entirely in the data plane," in **ACM Symposium on SDN Research (SOSR)**, 2017.
- Srinivas Narayana, Mina Tashmasbi, Jennifer Rexford, and David Walker, "Compiling path queries," in Usenix Symposium on Networked Systems Design and Implementation (NSDI), 2016.
- Divjyot Sethi, Srinivas Narayana, and Sharad Malik, "Abstractions for model checking SDN controllers," in Formal methods in Computer-Aided Design (FMCAD), 2013.

WORKSHOP PUBLICATIONS

- Xiangyu Gao, Jiaqi Gao, Karan Kumar Gangadhar, Ennan Zhai, Srinivas Narayana, and Anirudh Sivaraman, "Cross-Platform Transpilation of Packet-Processing Programs using Program Synthesis," in Asia Pacific Workshop on Networking (APNet), 2024.
- Srinivas Narayana, "Making decisions at data plane speeds," in ACM SIGMETRICS Workshop on Self-Driving Networks, 2023.
- Jessica Berg, Muhammad Haseeb, Haiming Chen, Yaojia Ju, Anirudh Sivaraman, Ravi Netravali, and Srinivas Narayana, "QuEST: Fast, Expressive, and Cheap Analytics for Distributed Traces Using Cloud Storage," in **VLDB Cloud Databases Workshop**, 2023.
- Bhavana Vannarth Shobhana, Srinivas Narayana, and Badri Nath, "Load balancers need in-band feedback control," in **ACM Hot Topics in Networking (HotNets)**, 2022.
- Jessica Berg, Fabian Ruffy, Khanh Nguyen, Nicholas Yang, Taegyun Kim, Anirudh Sivaraman, Ravi Netravali, and Srinivas Narayana, "Snicket: Query-Driven Distributed Tracing," in ACM Hot Topics in Networking (HotNets), 2021.
- Xiangyu Gao, Taegyun Kim, Aatish Kishan Varma, Anirudh Sivaraman, Srinivas Narayana, "Autogenerating fast packet-processing code using program synthesis," in **ACM Hot Topics in Networks (HotNets)**, 2019.
- Akshay Narayan, Frank Cangialosi, Prateesh Goyal, Srinivas Narayana, Mohammad Alizadeh, and Hari Bal-

akrishnan, "The case for moving congestion control out of the datapath," in ACM Hot Topics in Networks (HotNets), 2017.

- Srinivas Narayana, Anirudh Sivaraman, Vikram Nathan, Mohammad Alizadeh, David Walker, Jennifer Rexford, Vimalkumar Jeyakumar, and Changhoon Kim, "Hardware-software co-design for network performance measurement," in **ACM Hot Topics in Networks (HotNets)**, 2016.
- Srinivas Narayana, Jennifer Rexford, and David Walker, "Compiling path queries in software-defined networks," in ACM Hot Topics in Software-Defined Networks (HotSDN), 2014.
- Srinivas Narayana, Joe Wenjie Jiang, Jennifer Rexford, and Mung Chiang, "Joint server selection and routing for geo-replicated services," in Workshop on Distributed Cloud Computing (DCC), 2013. Invited paper.

ISSUED PATENT

• Anupam Joshi, Srinivas Narayana, and Aaditeshwar Seth, "Systems and methods for transactions on the spoken web," US patent 8463705, granted in 2013.

OTHER ARTICLES

- Qiongwen Xu, Songyuan Zhang, Sebastiano Miano, Anirudh Sivaraman, Gianni Antichi, and Srinivas Narayana, "Using high-throughput pipelines to parallelize stateful packet processing," in **Usenix NSDI poster**, 2023.
- Akshay Narayan, Frank Cangialosi, Deepti Raghavan, Prateesh Goyal, Srinivas Narayana, Mohammad Alizadeh, and Hari Balakrishnan, "Restructuring endpoint congestion control," in Linux Network Developers (netdev) conference 0x12, 2018.
- Srinivas Narayana, "Declarative network path queries," in Ph.D. thesis, Princeton University, 2016.
- Srinivas Narayana, Joe Wenjie Jiang, Jennifer Rexford, and Mung Chiang, "To coordinate or not to coordinate? Wide-Area traffic management for data centers," in **Technical report, Princeton University**, 2012.
- Srinivas Narayana, Joe Wenjie Jiang, Jennifer Rexford, Mung Chiang, "Distributed wide-area traffic management for cloud services," in ACM SIGMETRICS/Performance Extended Abstract, 2012.

DEMONSTRATIONS

- Vikram Nathan, Srinivas Narayana, Anirudh Sivaraman, Prateesh Goyal, Venkat Arun, Mohammad Alizadeh, Vimalkumar Jeyakumar, and Changhoon Kim, "Demonstration of the Marple System for Network Performance Monitoring," at ACM SIGCOMM, 2017.
- Srinivas Narayana, Anirudh Sivaraman, Vikram Nathan, Mohammad Alizadeh, David Walker, Prateesh Goyal, Venkat Arun, Vimalkumar Jeyakumar, and Changhoon Kim, "Language-directed hardware design for network performance monitoring," at P4 Workshop, 2017.
- Srinivas Narayana, "Tools for hands-on networking," at IIT Madras, Feb 2010.

ACCEPTED FUNDING PROPOSALS

- Verified path exploration for eBPF static analysis (eBPF foundation 2024 grant, \$50,000): Srinivas Narayana (PI) and Santosh Nagarakatte
- Formally-verified eBPF verifier in the Linux kernel (2024 NSF FMitF 2422076, \$150,000): Srinivas Narayana (PI) and Santosh Nagarakatte
- Synthesizing safe and efficient kernel extensions for packet processing (2021, Network Programming Initiative, \$25,000) as PI
- Formally Verified Sandboxing for Packet-Processing Programs (2020 NSF FMitF 2019302, \$749,356): Srinivas Narayana (PI) and Santosh Nagarakatte
- Facebook Networking and Systems Research Award (2019, unrestricted \$50,000 gift): Srinivas Narayana (PI) and Santosh Nagarakatte
- Democratizing network hardware offloads (2019 NSF CNS 1910796, \$387,990) as PI
- Rutgers University Next-Generation Edge Testbed (RU-NET) (2019 NSF CC* 1925482, \$999,024): Barr Von Oehsen (PI), Srinivas Narayana, Rich Martin, Thu Nguyen, and Ivan Seskar

RESEARCH PRESENTATIONS

- Formally-verified sandboxing for packet-processing programs, at FMitF PI meeting, Iowa City, Iowa, USA, Nov '24.
- Safe and efficient kernel extensions for networking, Invited guest lecture at Purdue University CS 536 (Data communication and computer networks).Nov '24

- Programming computer networks safely and efficiently, at Jane Street/HotNets'24 PC pod, Sep '24.
- Making decisions at data plane speeds, invited talk at ACM SIGMETRICS self-driving networks workshop, Jun '23.
- Invited panelist for "broadening software defined networking" at Symposium on Software-Defined Network (SOSR), '22.
- V-SPELLS eBPF working group (online/Vanderbilt), Oct '22.
- Clockwork, Palo Alto, CA, Jul '22.

Leveraging kernel extensions for safe and efficient packet processing

- COMSNETS Invited Speaker, Bengaluru, India, Jan '22.
- Rutgers University, NJ, USA, Dec '21.
- "Restructuring endpoint congestion control", at IIT Madras, Chennai, India (Aug '19).
- "Restructuring endpoint congestion control", at Columbia University systems seminar, NYC (Nov '18).
- "Monitoring with programmable data planes", at NII Shonan workshop, held at Shonan village, Japan (Feb '18).
- "Elasticity detection", at DARPA PI summit, held at Los Angeles, CA (Feb '18).

Turning the network into a streaming database for better monitoring

- Tufts University, Medford, MA, Feb '18
- Northeastern University, Boston, MA, Mar '18
- Rutgers University, New Brunswick, NJ, Mar '18
- Microsoft Research, Redmond, WA, Apr '18

Marple: Fine-grained performance monitoring

- ACM SIGCOMM, at Los Angeles, CA, Aug '17.
- Google, Mountain View, CA, May '16.
- Cisco Networks (PI summit), May '16.
- Barefoot Networks, May '16.
- P4 workshop, at Stanford, CA, May '16.
- Hot topics in networking (HotNets), at Atlanta, GA, Nov '16.
- New England Networking and Systems summit, at Boston, MA, Oct '16.

Path queries: Measuring traffic over network paths

- Tufts university (CS department colloquium), Oct '16.
- Microsoft Research graduate student summit on networks, mobility and systems, Feb '16.
- Princeton University (Ph.D. thesis defense), May '16.
- Usenix Symposium on Networked Systems Design and Implementation (NSDI), at Santa Clara, CA, Apr '16.
- Indian Institute of Technology, Madras (CS department colloquium), Jan '16.
- Indian Institute of Technology, Bombay, Dec '15.
- Indian Institute of Science, Bengaluru, Dec '15.
- Microsoft Research India, Bengaluru, Dec '15.
- University of Delaware (SIGNET department seminar series), Dec '15.
- AT&T Research, Sep '15.
- Hot topics in Software-Defined Networks (HotSDN), at Chicago, IL, Aug '14.

Measuring the impact of network reconfiguration

- Google, Mountain View, CA, Sep '12.
- Princeton University (EDGE lab meeting), Feb '13.

Wide-area traffic engineering for large online service providers

- Workshop on Distributed Cloud Computing (DCC), at Dresden, Germany, Dec '13.
- Technische Universität (TU) Berlin, Germany, Dec '13.
- Princeton University (general examination seminar), Jan '12.

TECHNOLOGY TRANSFER AND IMPACT

- Upstreamed Linux kernel patch on making BPF abstract multiplication more precise '25
- Upstreamed Linux kernel patch on making abstract operators modularly sound '24;
- Upstreamed Linux kernel patch on multiplication of tristate numbers, '21
- QUIC congestion control plane implementation merged into Facebook's mvfst software and mTCP/DPDK
- Upstreamed Linux kernel patch on exposing transport-level receive and transmit rate measurements, '17

PH.D. THESES ADVISED

- Qiongwen Xu (Rutgers University, '19-Aug'24). First position: Microsoft Azure in Seattle, Washington
- Xiangyu Gao (NYU, graduated Jun'24), co-advised with Anirudh Sivaraman (NYU). First position: Postdoctoral researcher at University of Washington Seattle
- Bala Murali Komanduri Krishna (Rutgers University, '18-)
- Bhavana Vannarth Shobhana (Rutgers University, '21-), co-advised with Badri Nath
- Harishankar Vishwanathan (Rutgers University, '21-), co-advised with Santosh Nagarakatte

M.S. THESES ADVISED

- Ajay Raghavan, M.S. thesis, '24–'25 (expected)
- Vijay Souri Maddila, M.S. thesis, '23-'24
- Sai Pradyumn Shrivastava, M.S. thesis, '23-'24
- Aditya Murugadass (M.S. at Rutgers), summer '23, M.S. thesis '23-'24

UNDERGRADUATE THESES ADVISED

- Arunima Bhowmik (undergraduate at Rutgers), Spring'23 Project SUPER student, undergraduate capstone course '23-'24
- Rajat Patel, undergraduate capstone course '23–'24
- John Hoban (undergraduate at Rutgers), AY thesis '21-'22 (Paul Robeson scholar)
- Songyuan Zhang (undergraduate at Rutgers), '20–fall'22

STUDENT MENTORING (NON-THESIS)

- Brian Zhang (undergraduate '25), Aresty academic year research assistant '24-'25
- Danikka Crystal Jelski (undergraduate '26), Aresty academic year research assistant '24-'25
- Yen-Lin Chien, M.S., independent study summer'24 & fall'24
- Maulikaa Manikantan (undergraduate '26), Project SUPER summer'24
- Olivia Morales (undergraduate '26), Project SUPER summer'24
- Isha Shrivastava (undergraduate '26), Project SUPER summer'24
- Shivam Kajaria (undergraduate '24), independent study fall'23
- Nima Fallah (undergraduate '26), independent study spring'24
- Saumya Sachdev, M.S., independent study fall '23
- Laksh Kotian, M.S., independent study fall'23
- Ganesh Rohit Basam, M.S., independent study fall '23
- Shinbee Kang (undergraduate '25), independent study fall'23, Project SUPER summer'22
- Anirudh Srinivasa Raghavan (M.S. at Rutgers), summer '23
- Shivangi Rohilla (undergraduate at Rutgers), Spring '22, Aresty academic year research assistant '22-'23
- Chongen Zheng (undergraduate at Rutgers), Spring'23
- Sandipan Mondal (undergraduate at Rutgers), Spring'23
- Anush Paudyal (undergraduate at Rutgers), Spring'23
- Jessie Liang (undergraduate at Rutgers), Independent study Spring '22, Spring '23
- Heon Yim (undergraduate at Rutgers), Summer '22, independent study Fall '22
- Zaneta Failbus (undergraduate at Rutgers), Project SUPER Summer '22, fall '22
- Nishant Dhargalkar (M.S. at Rutgers), Summer '22
- Vaishnavi Manthena (undergraduate at Rutgers), Aresty academic year research assistant '21-'22 (Rizvi Prize)
- Andrea Gil-Lopez (undergraduate at Rutgers), LSAMP academic year research assistant, '20-'21
- Delta Lyczak (undergraduate at Lafayette College, PA), DIMACS summer intern'21
- Tavis Johnson (undergraduate at Iona College, NY), DIMACS summer intern'21
- Anthony Chavez (undergraduate at Rutgers-Newark), LSAMP summer intern'21
- Thaquib Ahammed (undergraduate at Rutgers), LSAMP summer intern'21
- Sebastian Lezaros Romero (undergraduate at Rutgers), Aresty-LSAMP summer intern'21
- Tanvi Wagle (undergraduate at Rutgers), Aresty academic year research assistant '20-'21 (Novielli Prize)
- Kevin DeFreitas (undergraduate at Rutgers), fall'20
- Michael Dean Wong, '20–'21 (now graduate student at Princeton)
- Lance Tan (undergraduate at Yale University), DIMACS summer intern'20
- Zhen Yi Pan (undergraduate at Stony Brook University), DIMACS summer and fall intern'20
- Sukumar Gaonkar (M.S. student at Rutgers, now at Bloomberg), '19-'20

Additionally, I worked closely with the following students prior to my stint as a faculty member, either when I was a post-doc or a Ph.D. student.

- Frank Cangialosi (graduate student at MIT), '16–'22
- Akshay Narayan (graduate student at MIT), '16-'18
- Prateesh Goyal (graduate student at MIT), '16–'18
- Michael Chang (undergraduate at Princeton, now a graduate student at UC Berkeley), '15-'16
- Vibhaa Sivaraman (undergraduate at Princeton, now a graduate student at MIT), '15-'16
- Mina Tashmasbi (graduate student at Princeton, now postdoc at Cornell), '14-'16
- Anshuman Mohan (undergraduate at Yale/National University of Singapore), '15
- Violeta Ilieva (Princeton), '15

PROFESSIONAL SERVICE AT RUTGERS UNIVERSITY

- M.S. advising committee '23-'24
- School of Arts and Sciences Honors Program Mentor, '22-'23, '23-'24, '24-'25
- Qualifying Exam Member Assignment Committee '24
- School of Arts and Sciences IT advisory committee, '23
- Faculty hiring committee, '20, '19, '24
- Masters admissions committee, '21, '22, '23
- Office of Advanced Research Computing (OARC) advisory committee, '18-

PROFESSIONAL SERVICE OUTSIDE RUTGERS

- Technical Program Committee, Asia Pacific workshop on Networking (APNet) 2025
- NSF panel 2025
- Invited to Technical Program Committee, Symposium on Operating Systems Design and Implementation (OSDI) '25
- Chair and Co-Organizer of the second workshop on eBPF and kernel extensions, co-located with ACM SIG-COMM'24
- Technical Program Committee, ACM Hot Topics in Networking (HotNets) '24
- NSF panel, 2024
- Technical Program Committee, Symposium on Networked Systems Design and Implementation (NSDI) '25
- Chair and Co-Organizer of the first workshop on eBPF and kernel extensions, co-located with ACM SIG-COMM'23
- Technical Program Committee, Symposium on Networked Systems Design and Implementation (NSDI) '24
- Technical Program Committee, International Conference on Network Protocols (ICNP), '22
- Editorial Board, Journal of Systems Research (JSys), 2022-23
- Technical Program Committee, Symposium on Networked Systems Design and Implementation (NSDI) '23
- Technical Program Committee, Asia-Pacific workshop on networking (APNet) '22
- Editorial Board, Journal of Systems Research (JSys), 2021-22
- Technical Program Committee, Symposium on Cloud Computing (ACM SoCC) '21
- Technical Program Committee, ACM HotNets'21
- Expert roundtable series, P4 and Programmable Forwarding Summit '20
- Technical Program Committee, P4 and Programmable Forwarding Summit '20
- Reviewer, ACM/IEEE Transactions on Networking (ToN) '20
- Reviewer, Journal of Parallel and Distributed Computing (JPDC) '19
- Reviewer, IEEE Transactions on Network Science and Engineering '19
- Reviewer, ACM/IEEE Transactions on Networking (ToN) '19
- Technical Program Committee, ACM CoNext student workshop '19
- Technical Program Committee, New England Networking and Systems (NENS) day, '19
- Technical Program Committee, IEEE Sarnoff Symposium '19
- Organizing Committee (web and publicity chair), ACM SIGCOMM '20
- Technical Program Committee (Light), ACM SIGCOMM '19
- Reviewer, ACM/IEEE Transactions on Networking (ToN) '18
- Reviewer, IEEE Transactions on Parallel and Distributed Systems (TPDS) '18
- Technical Program Committee, ACM CoNext '18
- Technical Program Committee, ACM CoNext student workshop '18
- Technical Program Committee, ACM SIGCOMM '18 posters and demos
- Technical Program Committee, Workshop on Self-Driving Networks, ACM SIGCOMM '18

- Technical Program Committee, IEEE International Conference on High Performance Switching and Routing (HPSR) '18
- Technical Program Committee, ACM Symposium on SDN Research (SOSR) '18
- Reviewer, ACM/IEEE Transactions on Networking (ToN) '17
- Technical Program Commitee, ACM CoNext student workshop '17
- Technical Program Committee, ACM CoNext student workshop '16
- Reviewer, ACM/IEEE Transactions on Networking (ToN) '16
- Reviewer, IEEE INFOCOM '16
- Reviewer, Formal Methods in Computer-Aided Design (FMCAD) '16
- Reviewer, IEEE Transactions on Dependable and Secure Computing (TDSC) '16
- Reviewer, IEEE Transactions on Network and Service Management (TNSM) '16
- Reviewer, IEEE Transactions on Parallel and Distributed Systems (TPDS) '16
- Reviewer, ACM Symposium on SDN research (SOSR) '15
- Reviewer, Formal Methods in Computer-Aided Design (FMCAD) '15

PROFESSIONAL DEVELOPMENT

- Nvidia/Mellanox Bluefield 2 bootcamp and hackathon, '21
- Graduate of Barefoot Academy (hands-on programming of Barefoot Networks switches), '17
- Kaufman teaching certificate program (KTCP), MIT, '17
- Postdoc leadership workshop, MIT, '16
- New York Academy of Sciences "Speaking Science" workshop, New York city, '16
- Head of Web Operations, shaastra.org, '09

Further, I was invited to attend discussions and give talks at these invitation-only research workshops.

- US-Japan NSF workshop on programmable networking, Nov 2020
- NSF CSR/NeTS PI meeting, Oct 2019
- NSF workshop on programmable networks, Oct 2018
- NII Shonan workshop, Feb 2018

OUTREACH ACTIVITIES

- School of Arts and Sciences Honors Program Mentor, 2 students in '22-'23, 3 students '23-'24
- Project SUPER (increasing participation of women in computing), summer '22, summer '24
- Aresty academic year research assistant, '20, '21, '22, 2 students in '24-'25
- Research Experiences for Undergraduates at the Louis Stokes Alliance for Minority Participation (LSAMP), summer '20-'21, '21, '21-'22
- Research Experiences for Undergraduates at Rutgers/DIMACS, summer'20, summer'21
- New York Academy of Sciences (NYAS) STEM Mentor '19
- Organizer of networking research reading group at IIT Madras, Chennai, India, '17
- Teaching volunteer for Boston STEM week, '16
- Internship coordinator for Computer Science at IIT Madras, '08-'09
- Organizer of the Shaastra Online Programming Contest, '08
- Volunteer for the National Service Scheme (NSS), India, '06-'07

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