

Mina Tahmasbi Arashloo

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RESEARCH INTERESTS ◇ **Networked Systems**; with an emphasis on *Software Defined Networks (SDNs)* and *Programmable Data Planes*

EDUCATION ◇ **Princeton University (2014–2019)**.
- Ph.D. and M.A in Computer Science (GPA: 4.0/4.0)
- Advisor: Professor Jennifer Rexford
- Thesis: Stateful Programming of High-Speed Network Hardware
◇ **Sharif University of Technology (2010–2014)**.
- B.Sc. in Computer Engineering (GPA: 19.50/20.00)
- Thesis: A Distance-Vector Routing Protocol for Named Data Networks
- Thesis Supervisor: Professor Ali Movaghar

PROFESSIONAL EXPERIENCE ◇ **Cornell University**
Presidential Post-Doctoral Fellow (2019 – present)
Supervised by Professor Nate Foster and Professor Rachit Agarwal
◇ **Microsoft Research**
Research Intern (Summer 2017)
Supervised by Professor Manya Ghobadi
◇ **Microsoft Azure**
Research Intern (Fall 2016)
Supervised by Lihua Yuan

AWARDS AND RECOGNITION ◇ **Rising Star** in Networking and Communications by N²Women (2021).
◇ **Best Paper Award** at ACM SOSR'20 (2020).
◇ **ACM SIGCOMM Dissertation Award** (2019).
◇ **Cornell Presidential Post-Doctoral Fellow** (2019 - present).
◇ **Siebel Scholar** (Class of 2019).
◇ **Microsoft Research Dissertation Grant** (2018).
◇ Selected for **Rising Stars in EECS** at MIT (2018).
◇ **School of Engineering and Applied Science (SEAS) Award of Excellence**, Princeton University (2017).
◇ **Ranked 1st** in terms of cumulative GPA among class of 2014 students of Computer Engineering, Sharif University of Technology (2014).
◇ **Iranian National Elites Foundation** grant for undergraduate studies, for outstanding academic success (2010–2014).
◇ **Ranked 2nd** in Iran's national entrance exam for M.Sc in computer engineering (2014).
◇ **Ranked 33rd** in Iran's university entrance exam among over 400,000 participants (2010).
◇ **National Organization for Development of Exceptional Talents (NODET)** member (2003–2010).

- PUBLICATIONS
- ◇ *Modular Switch Programming under Resource Constraints*, **NSDI 2022**
Mary Hogan, Shir Landau-Feibish, Mina Tahmasbi Arashloo, Jennifer Rexford, David Walker.
 - ◇ *Towards Formally Verifying Congestion Control Behavior*, **SIGCOMM 2021**
Venkat Arun, Mina Tahmasbi Arashloo, Ahmed Saeed, Mohammad Alizadeh, Hari Balakrishnan.
 - ◇ *DBVal: Validating P4 Data Plane Runtime Behavior*, **SOSR 2021**
K Shiv Kumar, Ranjitha K, P S Prashanth, Mina Tahmasbi Arashloo, Venkanna U., Praveen Tammana.
 - ◇ *Petr4: Formal Foundations for P4 Data Planes*, **POPL 2021**
Ryan Doenges, Mina Tahmasbi Arashloo, Santiago Bautista, Alexander Chang, Newton Ni, Samwise Parkinson, Rudy Peterson, Alaia Solko-Breslin, Amanda Xu, Nate Foster.
 - ◇ *Enabling Programmable Transport Protocols on High-Speed NICs*, **NSDI 2020**
Mina Tahmasbi Arashloo, Alexey Lavrov, Manya Ghobadi, Jennifer Rexford, David Walker, David Wentzlaff.
 - ◇ *Tracking P4 Program Paths in the Data Plane*, **SOSR 2020 (Best Paper Award)**
Suriya Kodeswaran, Mina Tahmasbi Arashloo, Praveen Tammana, Jennifer Rexford.
 - ◇ *Elastic Switch Programming with P4All*, **HotNets 2020**
Mary Hogan, Shir Landau-Feibish, Mina Tahmasbi Arashloo, Jennifer Rexford, David Walker, Rob Harrison.
 - ◇ *A Scalable VPN Gateway for Multi-Tenant Cloud Services*, **SIGCOMM CCR 2018**
Mina Tahmasbi Arashloo, Pavel Shirshov, Rohan Gandhi, Guohan Lu, Lihua Yuan, Jennifer Rexford.
 - ◇ *HotCocoa: Hardware Congestion Control Abstractions*, **HotNets 2017**
Mina Tahmasbi Arashloo, Monia Ghobadi, Jennifer Rexford, David Walker.
 - ◇ *SNAP: Stateful Network-wide Abstractions for Packet Processing*, **SIGCOMM 2016**
Mina Tahmasbi Arashloo, Yaron Koral, Michael Greenberg, Jennifer Rexford, David Walker.
 - ◇ *Compiling Path Queries*, **NSDI 2016**
Srinivas Narayana, Mina Tahmasbi Arashloo, Jennifer Rexford, David Walker.
- PREPRINTS UNDER SUBMISSION
- ◇ *Automated Network Performance Analysis with Workload Synthesis*
Mina Tahmasbi Arashloo, Ryan Beckett, Rachit Agarwal.
 - ◇ *Your Datacenter is a Switch*
Qizhe Cai, Mina Tahmasbi Arashloo, Rachit Agarwal.
- PROFESSIONAL SERVICE
- ◇ **Program Committee Member**
 - ACM/IEEE ANCS (2021)
 - ACM HotNets (2021)
 - ACM CoNEXT (2021)
 - ACM SIGCOMM (2020)
 - ACM SIGCOMM Poster and Demos (2020)
 - ACM SIGCOMM Symposium on SDN Research (SOSR) (2019, 2020, 2021)
 - Asia-Pacific Workshop on Networking (2020, 2021)
 - P4 Workshop (2018, 2019, 2021)
 - EuroP4 Workshop (2020, 2021)
 - ◇ **Other Committees and Panels**
 - ACM SIGCOMM Publication co-chair (2020)
 - NSF CNS Panel (2020)
 - ◇ **External Reviewer**
 - Conferences: ASPLOS (External Review Committee, 2021), INFOCOM (2017)

- Journals: IEEE Transactions on Networking (TON), IEEE Transactions on Very Large Scale Integration Systems (TVLSI), IEEE Transactions on Network and Service Management (TNSM), IEEE International Conference on Computer Communications, Journal of Cloud Computing

SELECTED
TALKS AND
LECTURES

- ◇ “An Introduction to SmartNICs and their Use Cases”, Guest lecture at the Computer Networks course at MIT (Fall 2019)
- ◇ “Flexible Network Monitoring and Control”, Women Advancing Research, Princeton SheRoars Conference (Fall 2019)
- ◇ “Enabling Programmable Transport Protocols on High-Speed NICs”
 - Wisconsin Internet and Systems Research Group, University of Wisconsin-Madison (Spring 2020)
 - Rutgers CS Systems Research Reading Group (Fall 2020)
 - NIKSUN (Fall 2018)
- ◇ “SNAP: Stateful Network-wide Abstractions for Packet Processing”
 - University of Washington System’s Lunch (Summer 2017)
 - Stanford University Networking Seminar (Spring 2017)

TEACHING
EXPERIENCE

- ◇ **Cornell University**
Developing an online certificate course on SDN with Professor Nate Foster (2020-present)
In collaboration with eCornell, Cornell Online Education Programs.
- ◇ **Princeton University**
Teaching Assistant
Courses: Computer Networks (Spring 2016), Functional Programming (Fall 2015)
- ◇ **Sharif University of Technology**
Teaching Assistant
Courses: Computer Networks (Spring 2014, Fall 2013), Theory of Machine Languages and Automata (Fall 2012, Spring 2013, Fall 2013), Artificial Intelligence (Spring 2014, Fall 2013, Head-TA), Compiler Design (Spring 2013, Head-TA), Design and Analysis of Algorithms (Fall 2012)

OUTREACH
AND
MENTORING

- ◇ Co-Organizer of the tutorial on “Introduction to Network Verification” at ACM SIGCOMM (2021)
- ◇ Moderator of the “Women at Microsoft” panel at ACM SIGCOMM (2021)
- ◇ Panelist on the “Women in STEM” panel, Rutgers University - Newark Chemistry Society (2021)
- ◇ Speaker at “Women Advancing Research” at Princeton SheRoars Conference (2019)
- ◇ Student Mentoring
 - Qizhe Cai (Ph.D. student at Cornell University, 2019-present)
 - Suriya Kudeswaran (M.Sc. student at Princeton University, 2018-2019)
 - Natalie Isak (Undergraduate student at Cornell University, 2020)
 - Melissa Ginaldi (Undergraduate student at Cornell University, 2019-2020)