

# Mina Tahmasbi Arashloo

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## Research Interest

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Networked systems, with an emphasis on software-defined and programmable networks.

## Education

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<b>Princeton University</b> Ph.D. and M.A in Computer Science Advisor: Jennifer Rexford Thesis: Stateful Programming of High-Speed Network Hardware	2014 - 2019
<b>Sharif University of Technology</b> B.Sc. in Computer Engineering (GPA: 19.50/20.00)	2010 - 2014

## Employment

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<b>University of Waterloo</b> Cheriton School of Computer Science Assistant Professor	2022 - present
<b>Cornell University</b> Department of Computer Science Presidential Post-Doctoral Fellow Supervised by Nate Foster and Rachit Agarwal	2019 - 2022
<b>Microsoft Research</b> Research Intern	Summer 2017
<b>Microsoft Azure</b> Intern	Fall 2016

## Honors and Recognitions

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Rising Star in Networking and Communications by N <sup>2</sup> Women	2021
ACM SIGCOMM Dissertation Award	2020
Best Paper Award at ACM SIGCOMM SOSR	2020
Cornell Presidential Post-Doctoral Fellow	2019 - 2022
Siebel Scholar	Class of 2019
Microsoft Research Dissertation Grant	2019
EECS Rising Stars in EECS at MIT	2018
School of Engineering and Applied Science Award of Excellence, Princeton University	2017

## Publications

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*Formal Methods for Network Performance Analysis*  
Mina Tahmasbi Arashloo, Ryan Beckett, Rachit Agarwal  
USENIX Symposium on Networked Systems Design and Implementation, **NSDI 2023**

*dcPIM: Near-Optimal Proactive Datacenter Transport*  
Qizhe Cai, Mina Tahmasbi Arashloo, Rachit Agarwal  
ACM Special Interest Group on Data Communication, **SIGCOMM 2022**

### *Modular Switch Programming under Resource Constraints*

Mary Hogan, Shir Landau-Feibish, Mina Tahmasbi Arashloo, Jennifer Rexford, David Walker  
USENIX Symposium on Networked Systems Design and Implementation, **NSDI 2022**

### *Towards Formally Verifying Congestion Control Behavior*

Venkat Arun, Mina Tahmasbi Arashloo, Ahmed Saeed, Mohammad Alizadeh, Hari Balakrishnan  
ACM Special Interest Group on Data Communication, **SIGCOMM 2021**

### *DBVal: Validating P4 Data Plane Runtime Behavior*

K Shiv Kumar, Ranjitha K, P S Prashanth, Mina Tahmasbi Arashloo, Venkanna U., Praveen Tammana  
ACM SIGCOMM Symposium on SDN Research, **SOSR 2021**

### *Petr4: Formal Foundations for P4 Data Planes*

Ryan Doenges, Mina Tahmasbi Arashloo, Santiago Bautista, Alexander Chang, Newton Ni, Samwise Parkinson, Rudy Peterson, Alaia Solko-Breslin, Amanda Xu, Nate Foster  
ACM SIGPLAN Symposium on Principles of Programming Languages, **POPL 2021**

### *Elastic Switch Programming with P4All*

Mary Hogan, Shir Landau-Feibish, Mina Tahmasbi Arashloo, Jennifer Rexford, David Walker, Rob Harrison  
ACM Workshop on Hot Topics in Networks, **HotNets 2020**

### *Enabling Programmable Transport Protocols in High-Speed NICs*

Mina Tahmasbi Arashloo, Alexey Lavrov, Manya Ghobadi, Jennifer Rexford, David Walker, David Wentzlaff  
USENIX Symposium on Networked Systems Design and Implementation, **NSDI 2020**

### *Tracking P4 Program Execution Path in the Data Plane*

Suriya Kodeswaran, Mina Tahmasbi Arashloo, Praveen Tammana, Jennifer Rexford  
ACM SIGCOMM Symposium on SDN Research, **SOSR 2020 (Best Paper Award)**

### *A Scalable VPN Gateway for Multi-Tenant Cloud Services*

Mina Tahmasbi Arashloo, Pavel Shirshov, Rohan Gandhi, Guohan Lu, Lihua Yuan, Jennifer Rexford  
ACM SIGCOMM Computer Communication Review, **SIGCOMM CCR 2018**

### *HotCocoa: Hardware Congestion Control Abstractions*

Mina Tahmasbi Arashloo, Monia Ghobadi, Jennifer Rexford, David Walker  
ACM Workshop on Hot Topics in Networks, **HotNets 2017**

### *SNAP: Stateful Network-wide Abstractions for Packet Processing*

Mina Tahmasbi Arashloo, Yaron Koral, Michael Greenberg, Jennifer Rexford, David Walker  
ACM Special Interest Group on Data Communication, **SIGCOMM 2016**

### *Compiling Path Queries*

Srinivas Narayana, Mina Tahmasbi Arashloo, Jennifer Rexford, David Walker  
USENIX Symposium on Networked Systems Design and Implementation, **NSDI 2016**

## Teaching

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### University of Waterloo

CS 864: Programmable Networks Winter 2023

### Cornell University

Online certificate series on Software-Defined Networking (SDN) 2020 - 2022  
In collaboration with Nate Foster and Cornell Online Education Programs (eCornell)

## Professional Service

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### Program Co-Chair

P4 Workshop 2023  
ACM SIGCOMM Symposium on SDN Research (SOSR) 2022  
The N<sup>2</sup>Women Workshop at SIGCOMM 2022

### Program Committee Member

USENIX Symposium on Networked Systems Design and Implementation (NSDI) 2023  
ACM Symposium on Cloud Computing (SoCC) 2022  
ACM Conference on emerging Networking EXperiments and Technologies (CoNEXT) 2021

ACM/IEEE Symposium on Architectures for Networking and Communication Systems (ANCS)	2021
ACM Special Interest Group on Data Communication (SIGCOMM)	2020
ACM SIGCOMM Symposium on SDN Research (SOSR)	2019 - 2022
ACM SIGCOMM Posters and Demos	2020
Asia-Pacific Workshop on Networking (APNet)	2020, 2022
EuroP4 Workshop	2020, 2021
P4 Workshop	2018, 2019, 2021

#### Other Committees and Panels

ACM SIGCOMM Publication co-chair	2020
NSF CNS Panel	2020

#### External Reviewer for Conference

ACM SIGPLAN ASPLOS (External Review Committee)	2021
IEEE International Conference on Computer Communications	2017

#### External Reviewer for Journal

IEEE/ACM Transactions on Networking (TON)	2018 - 2022
IEEE Transactions on Network and Service Management (TNSM)	2021
IEEE Transactions on Very Large Scale Integration Systems (TVLSI)	2018
Journal of Cloud Computing	2017

#### University Service

Women in Computer Science (WiCS) committee	August 2022 - present
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#### Outreach

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Panelist on the “Student & Early Career Networking Researcher Roundtable”, the Networking Channel	2023
Co-Organizer of the “Introduction to Network Verification” tutorial 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

#### Invited Talks

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University of Wisconsin Internet and Systems Research Talk Series <i>Enabling Programmable Transport Protocols on High-Speed NICs</i>	April 2021
Rutgers CS Systems Research Seminar <i>Enabling Programmable Transport Protocols on High-Speed NICs</i>	November 2020
USENIX Symposium on Networked Systems Design and Implementation (NSDI) <i>Enabling Programmable Transport Protocols on High-Speed NICs</i>	February 2020
Guest lecture at the Computer Networks course at MIT <i>An Introduction to SmartNICs and their Use Cases</i>	November 2019
Women Advancing Research, Princeton SheRoars Conference <i>Flexible Network Monitoring and Control</i>	October 2018
ACM Workshop on Hot Topics in Networks <i>HotCocoa: Hardware Congestion Control Abstractions</i>	November 2017
University of Washington Systems Seminar <i>SNAP: Stateful Network-wide Abstractions for Packet Processing</i>	July 2017
Stanford University Networking Seminar <i>SNAP: Stateful Network-wide Abstractions for Packet Processing</i>	May 2017
Network Programming Initiative (NPI) Webinar Series <i>SNAP: Stateful Network-wide Abstractions for Packet Processing</i>	March 2017