

# 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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Canada Research Chair in “Minimizing Human Error in Operating Modern Networks” (Tier 2)	2024 - present
Heidelberg Laureate Forum Young Researcher	2023
NSERC Discovery Grant Early Career Supplement	2023
Rising Star in Networking and Communications by N <sup>2</sup> Women	2021
Best Paper Award at ACM SIGCOMM SOSR	2020
Cornell Presidential Post-Doctoral Fellow	2019 - 2022
ACM SIGCOMM Doctoral Dissertation Award	2019
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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*A Target-Agnostic Protocol-Independent Interface for the Transport Layer*

Pedro Mizuno, Kimiya Mohammadtaheri, Linfan Qian, Joshua Johnson, Danny Akbarzadeh, Chris Neely, Mario Baldi, Nachiket Kapre, Mina Tahmasbi Arashloo

Pre-print, Under Submission

*Count-Based Abstractions for Performance Verification of Contention Points*

Amir Seyhani, Aarti Gupta, David Walker, Mina Tahmasbi Arashloo

USENIX Symposium on Networked Systems Design and Implementation, **NSDI 2026**

*Dynamic SLA-Aware Network Slice Monitoring*

Niloy Saha, Mina Tahmasbi Arashloo, Nashid Shahriar, Raouf Boutaba

ACM Special Interest Group on Performance Evaluation, **ACM SIGMETRICS 2026**

*Toward eBPF-Accelerated Pub-Sub Systems*

Beihao Zhou, Samer Al-Kiswany, Mina Tahmasbi Arashloo

ACM SIGCOMM eBPF Workshop, **eBPF 2025**

*Buffy: A Formal Language-Based Framework for Network Performance Analysis*

Amir Seyhani, Junyi Zhao, Aarti Gupta, David Walker, Mina Tahmasbi Arashloo

ACM SIGCOMM Workshop on Hot Topics in Networks, **HotNets 2024**

*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: Network Transport Protocols	Winter 2026
CS 456: Computer Networks	Fall 2025
CS 864: Programmable Networks	Winter 2025
CS 456: Computer Networks	Fall 2024
CS 864: Programmable Networks	Winter 2024
CS 456: Computer Networks	Fall 2023
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)	

## Grants

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<b>Mitacs Accelerate</b>	2025
Sole PI, \$39,800	
<b>Canada Research Chair (Tier 2)</b>	2024 - 2029
Sole PI, \$500,000 in total including \$70,000 annually in research funds	
<b>NSERC Discovery Grant</b>	2023 - 2028
Sole PI, \$31,000 annually	
<b>NSERC Discovery Grant Early Career Supplement</b>	2023
Sole PI, \$12,500	

## 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

### Organizing Committee

ACM SIGCOMM Non-Paper Session Co-Chair	2026
N2Women Workshop Steering Committee	2025-present
IEEE CNSM Keynote Co-Chair	2023
ACM SIGCOMM Publication co-chair	2020

### Program Committee Member

ACM Special Interest Group on Data Communication (SIGCOMM)	2026
USENIX Symposium on Networked Systems Design and Implementation (NSDI)	2026
ACM Special Interest Group on Data Communication (SIGCOMM)	2025

ACM Special Interest Group on Data Communication (SIGCOMM)	2024
USENIX Symposium on Networked Systems Design and Implementation (NSDI)	2024
ACM Conference on emerging Networking EXperiments and Technologies (CoNEXT)	2024
ACM Special Interest Group on Performance Evaluation (SIGMETRICS)	2024
ACM SIGCOMM Workshop on Hot Topics in Networks (HotNets)	2024
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 SIGCOMM Workshop on Hot Topics in Networks (HotNets)	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**

IRTF Applied Networking Research Prize	2025, 2026
NSF CNS Panel	2024
NSF CISE Panel	2023
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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### **Student Supervision and Mentoring**

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#### **Graduate Students at University of Waterloo**

Umar Yousafzai, MMath  
Nesa Abbasimoghadamiasar, MMath  
Amir Hossein Seyhani, Ph.D.  
Kimiya MohammadTaheri, MMath → Ph.D  
Pedro Mizuno, MMath → Ph.D.

#### **Undergraduate Students at University of Waterloo**

##### *Full Time*

Linfan Qian, Undergraduate Research Fellow	Fall 2024
Jamie Kai, Undergraduate Research Fellow	Fall 2024
Pradhyumn Varadhan, Undergraduate Research Fellow	Fall 2024
Luc Edes, Undergraduate Research Fellow	Winter 2024

##### *Part Time*

Joshua Johnson, Undergraduate Research Assistant	Spring 2024
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Alex Lin, Undergraduate Research Assistant	Spring 2024
Patrick He, Undergraduate Research Assistant	Spring 2024
Danny Akbarzadeh, Undergraduate Research Assistant	Spring 2024
Carol Duan, Undergraduate Research Assistant	Winter 2024
Beihao Zhou, Undergraduate Research Assistant	Winter 2024
Crystal Zhou, Undergraduate Research Assistant	Winter 2024
Zening Hao, Undergraduate Research Assistant	Winter 2024
Arnav Nagpal, Undergraduate Research Assistant	Winter 2024
Jiashuo Shi, Undergraduate Research Assistant	Winter 2024
Harshvardhan Kakar, Undergraduate Research Assistant	Spring 2023
Andrew Zang, Undergraduate Research Assistant	Spring 2023
Harshvardhan Kakar, Undergraduate Research Assistant	Spring 2023
Dao Bo Yang, Undergraduate Research Assistant	Winter 2023
Ruiling Ma, Undergraduate Research Assistant	Winter 2023
Kevin Bian, Undergraduate Research Assistant	Winter 2023
Eric Liu, Undergraduate Research Assistant	Fall 2022

### Mentorship

Qizhe Cai, Ph.D. student at Cornell University	2019-2022
Suriya Kudeswaran, M.Sc. student at Princeton University	2018-2019
Melissa Ginaldi, Undergraduate student at Cornell University	2019-2020

### Outreach

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Panelist, “Thesis Writing and Job/Scholarship Applications”, UWaterloo’s Women in Math	2025
Panelist, “International STEM Faculty Careers”, Princeton University’s GradFUTURES	2025
Panelist, “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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P4 Workshop, Keynote <i>High-Level and Target-Agnostic Transport Programs</i>	October 2025
University of California at Berkeley, System Seminar <i>High-Level and Target-Agnostic Transport Programs</i>	October 2025
IEEE NetSoft, Keynote <i>Efficient Abstractions for Network Quality of Service</i>	June 2025
University of Windsor, School of Computer Science Colloquium Series <i>Towards automated proactive analysis of network performance</i>	February 2025
Dagstuhl Seminar on Network Calculus <i>Logic-Based Analysis of Network Performance</i>	April 2024
ETH (Swiss Federal Institute of Technology) Zurich <i>Formal Methods for Network Performance Analysis</i>	May 2023
Networking and Distributed Systems Lab at HP Labs <i>Formal Methods for Network Performance Analysis</i>	May 2023
USENIX Symposium on Networked Systems Design and Implementation (NSDI) <i>Formal Methods for Network Performance Analysis</i>	April 2023
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	November 2020

<i>Enabling Programmable Transport Protocols on High-Speed NICs</i>	
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