Mina Tahmasbi Arashloo

Cheriton School of Computer Science
University of Waterloo
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Research Interest

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

Education

Princeton University 2014 - 2019
Ph.D. and M.A in Computer Science
Advisor: 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)

Employment

University of Waterloo 2022 - present
Cheriton School of Computer Science
Assistant Professor

Cornell University 2019 - 2022
Department of Computer Science
Presidential Post-Doctoral Fellow
Supervised by Nate Foster and Rachit Agarwal

Microsoft Research Summer 2017
Research Intern

Microsoft Azure Fall 2016
Intern

Honors and Recognitions

Heidelberg Laureate Forum Young Researcher	2023
Rising Star in Networking and Communications by N^2Women	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
Rising Stars in EECS at MIT	2018
School of Engineering and Applied Science Award of Excellence, Princeton University	2017

Publications

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 Constraintst
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

University of Waterloo

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)

Professional Service

Program Co-Chair

P4 Workshop — 2023
ACM SIGCOMM Symposium on SDN Research (SOSR) — 2022
The N^{2}Women Workshop at SIGCOMM — 2022

Program Committee Member

ACM Conference on emerging Networking EXperiments and Technologies (CoNEXT) — 2024
ACM Special Interest Group for computer systems performance evaluation (SIGMETRICS) — 2024

USENIX Symposium on Networked Systems Design and Implementation (NSDI)	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/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

NSF CISE Panel	2023
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

Outreach

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

ETH (Swiss Federal Institute of Technology) Zurich — May 2023
Formal Methods for Network Performance Analysis

Networking and Distributed Systems Lab at HP Labs — May 2023
Formal Methods for Network Performance Analysis

University of Wisconsin Internet and Systems Research Talk Series — April 2021
Enabling Programmable Transport Protocols on High-Speed NICs

Rutgers CS Systems Research Seminar — November 2020
Enabling Programmable Transport Protocols on High-Speed NICs

USENIX Symposium on Networked Systems Design and Implementation (NSDI) — February 2020
Enabling Programmable Transport Protocols on High-Speed NICs

Guest lecture at the Computer Networks course at MIT — November 2019
An Introduction to SmartNICs and their Use Cases

Women Advancing Research, Princeton SheRoars Conference — October 2018
Flexible Network Monitoring and Control

ACM Workshop on Hot Topics in Networks — November 2017

HotCocoa: Hardware Congestion Control Abstractions

University of Washington Systems Seminar — July 2017
SNAP: Stateful Network-wide Abstractions for Packet Processing

Stanford University Networking Seminar — May 2017
SNAP: Stateful Network-wide Abstractions for Packet Processing

Network Programming Initiative (NPI) Webinar Series — March 2017
SNAP: Stateful Network-wide Abstractions for Packet Processing