Behnaz Arzani

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WEBSITE — https://www.microsoft.com/en-us/research/people/bearzani/

CURRENT POSITION

Microsoft Research

⊙ Post Doctoral Researcher   **August 2017**

EDUCATION

University of Pennsylvania Philadelphia,PA

⊙ PhD candidate Computer Science   **August 2017**

⊙ PhD candidate Electrical and Systems Engineering   **May 2014**

University of Pennsylvania Philadelphia,PA

⊙ Dual Masters degree from Electrical Engineering and Computer Science   **August 2017**

Sharif University of Technology, Tehran, Iran

⊙ B.S., Electrical Engineering, Communications   **June 2010**

RESEARCH INTERESTS

Networked systems, Datacenter Networks, Network Protocols, Distributed Systems

PUBLICATION VENUES

I have previously published my work in: SIGCOMM, NSDI, IMC, and ICNP.

PUBLICATIONS

Preprints

⊙ J. Gao, N. Yaseen, R. MacDavid, **B. Arzani**, M. Yu, V. Liu, Beyond Network Diagnosis, Improving Incident Mitigation in Production Data Centers. in submission

⊙ **B. Arzani**, S. Ciraci, S. Saroiu, A. Wolman, J. Stokes, G. Outhred, L. Diwu, PrivateEye: Scalable Privacy-Preserving Compromise Detection In The Cloud, in submission

Refereed Publications

⊙ A. Roy, D. Bansal, D. Brumley, H. K. Chandrappa, P. Sharma, R. Tewari, **B. Arzani**, A. Snoeren, Cloud Datacenter SDN Monitoring: Experiences and Challenges, IMC 2018

⊙ D. Yu, Y, Zhu, **B. Arzani**, R. Fonseca, T. Zhang, L. Yuan, K. Deng, dShark: A General, Easy to Program and Scalable Framework for Analyzing In-network Packet Traces, NSDI 2019

⊙ **B. Arzani**, S. Ciraci, L. Chamon, Y. Zhu, H. Liu, J. Padhye, B. Thau Loo, G. Outhred, 007: Democratically Finding The Cause of Packet Drops, NSDI 2018

⊙ **B. Arzani**, S. Ciraci, L. Chamon, Y. Zhu, H. Liu, J. Padhye, G. Outhred, B. Thau Loo, Closing the Network Diagnosis Gap with Vigil, Proceedings of SIGCOMM Posters and Demos 2017

⊙ **B. Arzani**, S. Ciraci, B. Thau Loo, A. Schuster, G. Outhred, Taking The Blame Game Out of Data Center Operations With NetPoirot, SIGCOMM 2016

⊙ **B. Arzani**, A. Gurney, S. Cheng, R. Guerin, B. Thau Loo, Deconstructing MPTCP Performance,ICNP 2014

- ⊙ **B. Arzani**, A. Gurney, S. Cheng, R. Guerin, B. Thau Loo, Impact of Path Selection and Scheduling Policies on MPTCP Performance, PAMS 2013

- ⊙ **B. Arzani**, R. Guerin, A. Rebeiro, A Distributed Routing Protocol for Predictable Rates in Wireless Mesh Networks, ICNP 2012

- ⊙ **B. Arzani** Design Of A Distributed Routing Protocol For Predictable Rates in Wireless Mesh Networks, ICNP PhD forum 2012

Patents

- ⊙ H. Zhang, **B. Arzani**, F. Ivancic, J. Rhee, N. Arora, G. Jiang, OFFLINE QUERIES IN SOFT-WARE DEFINED NETWORKS, US Pattent, 2014

Pending patents

- ⊙ **B. Arzani**, S. Ciraci, S. Saroiu, A. Wolman, J. Stokes, G. Outhred, Scalable, Privacy-Preserving, Compromise detection in the Cloud

- ⊙ S. Raindel, J. Padhye, A. Levy, M. Elhaddad, A. Monfared, B. Zill, **B. Arzani**, X. Guo, Link Fault Isolation Using RDMA Latencies

Technical Reports

- ⊙ **B. Arzani**, N. Iodice, S Hwang, P Venkataramanan, R Gurney, BT Loo, Sunstar: A cost effective Multi-Server Solution for Reliable Video Delivery. arxiv, 2018

- ⊙ **B. Arzani**, A. Gurney B. Thau Loo, R. Guerin, FixRoute: Automated Router Configuration Repair with Traffic Engineering Optimizations, arxiv 2015

PROFESSIONAL EXPERIENCE	

Microsoft., Redmond, WA, USA *Intern*   **Summer 2015, Summer 2016**

- ⊙ Automated classification of communication faults using TCP statistics.

NEC Labs., Princeton, NJ, USA *Intern*   **Summer 2013**

- ⊙ SDNShadow, a debugging tool for Software Defined Networks.

Micromowje Engineering Co., Tehran, Iran
Intern   **Summer 2009**

- ⊙ Producing high frequency satellite television transceivers and BTS stations

SELECTED HONORS AND AWARDS

- ⊙ N2Women Rising Stars in Computer Networking and Communications   **2018**

- ⊙ Selected for the MIT rising stars in EECS workshop   **2018**

- ⊙ Winner of The University of Pennsylvania Rubinoff dissertation award **2018**

- ⊙ Selected to participate in the NSF NeTS early-career workshop.   **2017**

- ⊙ Top 1% of my class in Sharif University of Technology.   **2010**

- ⊙ Top 10% of my class in the Electrical Engineering department at Sharif University of Technology.   **2010**

- ⊙ Top 0.001% (ranked 57th) in the Nationwide Universities Entrance Exam in Mathematics (Konkoor)   **2006**

- ⊙ Top 0.001% (ranked 10th) in the Nationwide English Universities Entrance Exam   **2006**

RESEARCH IMPACT

- ⊙ The work on PrivateEye is being deployed as a security system to protect Microsoft VMs from being compromised.
- ⊙ The work on 007 laid the foundation of an RDMA diagnosis system that is being deployed in Microsoft's data centers.
- ⊙ The work of NetPoirot helped Microsoft engineers identify the cause of VM reboots in Microsoft Azure for over 2 years.

TEACHING EXPERIENCE

- ***Substitute teacher***

  ### University of Pennsylvania

  - ⊙ Introduction to Networks & Security (Instructor: Dr. Heninger) **Fall 2017**

  Teaching Assistant

  ### University of Pennsylvania

  - ⊙ Introduction to Probability-Coursera (Instructor: Prof. Venkatesh) **Summer-Fall 2014**
  - ⊙ Introduction to Probability (Instructor: Prof. Venkatesh) **Spring 2014**
  - ⊙ Elements of Probability (Instructor: Prof. Venkatesh) **Fall 2013**
  - ⊙ Networking Theory and Fundementals(Instructor: Prof. Sarkar) **Spring 2012**

  ### Sharif University of Technology

  - ⊙ Principles of Electronics (Instructor: Prof. Fardmanesh) **Spring 2009**
  - ⊙ Electronics Engineering Principles (Instructor: Prof. Fardmanesh) **Fall 2009**

  Laboratory Instructor

  - ⊙ Electrical Engineering Principles (Supervisor: Prof. Fardmanesh)
    - ▷ Lab Instructor **Fall 2008**
  - ⊙ Electrical Engineering Principles (Supervisor: Prof. Kaboli)
    - ▷ Lab Instructor **Fall 2009**

  Physics tutor at Salam Institution, Karaj, Iran **Summer 2008**

  Other

  - ⊙ Graduate Student Representative in Computer Science **Fall 2014, Spring 2015, Fall 2015**
  - ⊙ Active member of Resana English Group, SUT
    - ▷ Coordinator of Free Discussion Sections
    - ▷ Active participants in the English Poetry group
  - ⊙ Active member of the industrial correspondence group of the MCN national conference, SUT **Fall and Winter 2008**

MENTORING

- ⊙ Nick Iodice (University of Pennsylvania) **2014**
- ⊙ Da Yu (Brown University) **2017**
- ⊙ Robert MacDavid (Princeton University) **2018**
- ⊙ Akshay Narayan (MIT) **2018,2019**
- ⊙ Jiaqi Gao (Harvard) **2018,2019**
- ⊙ Nofel Yaseen (University of Pennsylvania) **2018,2019**
- ⊙ Zhiying Xu (Harvard) **2018,2019**

INVITED TALKS

- ⊙ Invited guest lecture at Brown University   **Fall 2018 & Spring 2019**
- ⊙ Invited talk at Princeton University   **Spring 2019**
- ⊙ Invited talk at University of Pennsylvania   **Spring 2019**
- ⊙ Invited talk at Georgia Institute of Technology   **Spring 2019**
- ⊙ Invited talk at Cornell University   **Spring 2019**
- ⊙ Invited talk at University of Massachusetts Amherst   **Spring 2019**
- ⊙ Invited talk at University of Santa Barbara   **Spring 2019**
- ⊙ Invited talk at Boston University   **Spring 2019**

PROFESSIONAL SERVICE

- ⊙ Program Committee Member, NSDI 2020
- ⊙ Program Committee Member, HotNets 2019
- ⊙ Program Committee Member, CoNext 2019
- ⊙ Program Committee Member, NetAI 2019
- ⊙ Program Committee Member, SOSR, 2019
- ⊙ Program Committee Member, ACM CoNext, 2018
- ⊙ Program Comittee Member ApSys, 2018
- ⊙ Reviewer for IEEE Transactions on Networking, 2017
- ⊙ Shadow PC IMC, 2017,2018

SELECT GRADUATE COURSES

Digital Communications, Networking Theory and Fundamentals, Advanced Programing, Introduction to Algorithms, Advanced Algorithms, Convex Optimzation, Optimal Design of Wireless Networks, Game Theory (Audited), Graduate level Probability, Advanced Networking Protocols(Audited), Embeded Systems, Network and Infrastructure Threats: Attacks, Defenses, and Incentives, Machine Learning, Academic Writing, Software Systems, Mathematical Statistics, Beyond MapReduce

LETTER WRITERS

- ⊙ Prof. Boon Thau Loo
  Professor, Associate Dean, Master's and Professional Programs
  University of Pennsylvania
  Relationship: Advisor
  email: boonloo@seas.upenn.edu

- ⊙ Prof. Roch Guerin
  Department chair
  Washington University in St. Louis
  Relationship: Advisor
  email: guerin@wustl.edu

- ⊙ Prof. Jennifer Rexford
  Department Chair, Gordon Y. S. Wu Professor in Engineering
  Relationship: Member of PhD thesis committee
  email: jrex@cs.princeton.edu

- ⊙ Dr. Alec Wolman
  Principal Researcher
  Microsoft Research
  Relationship: Manager at Microsoft Research
  email: alecw@microsoft.com

⊙ Dr. Victor Bahl
Distinguished Scientist
Microsoft Research
Relationship: 2nd level manager at Microsoft Research
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⊙ Dr. Geoff Outhred
Partner Software Engineering manager
Microsoft
Relationship: Manager at Microsoft
email: geoffo@microsoft.com

⊙ Dr. Jitendra Padhye
Partner development lead
Microsoft
Relationship: Colaborator
email: padhye@microsoft.com