

Danesh Zeynali

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I am a researcher dedicated to advancing network congestion control. My work involves evaluating state-of-the-art algorithms, such as Google's BBRv3, and designing innovative frameworks that leverage programmable switches to enhance congestion feedback. I strive to systematically assess congestion control algorithms across diverse network conditions to ensure their applicability, effectiveness, and fairness.

Education

- **Max Planck Institute for Informatics, Saarland University** **Saarbrücken, Germany**
Ph.D. candidate, Computer Science *2020–Present*
 - Advisor: Prof. Anja Feldmann, Ph.D., Director, Max Planck Institute for Informatics
 - Co-Advisor: Prof. Balakrishnan Chandrasekaran, Ph.D., Assistant Professor, Vrije Universiteit Amsterdam
- **Sharif University of Technology** **Tehran, Iran**
M.Sc., Information Technology - Computer Networks *2012–2015*
- **Institute for Advanced Studies in Basic Sciences (IASBS)** **Zanjan, Iran**
B.Sc., Information Technology *2007–2012*

Research interests

- Congestion Control and Transport Protocols
- Internet Measurement and Performance Evaluation
- Programmable Networks (P4)

Publications

Zeynali, Danesh, C. Chang, K. De Schepper, B. Chandrasekaran, and A. Feldmann, "Small packets, big difference: L4s congestion control at low bandwidth," in *Applied Networking Research Workshop (ANRW)*, 2026.

Zeynali, Danesh, D. Eminov, T. Albakour, B. Chandrasekaran, and A. Feldmann, "The state of ecn adoption in the internet," in *Network Traffic Measurement and Analysis Conference (TMA)*, 2026.

S. Fathalli, E. N. Weyulu, **Zeynali, Danesh**, B. Chandrasekaran, and A. Feldmann, "Network assisted congestion feedback," in *IEEE Transactions on Network and Service Management (TNSM)*, 2025.

Zeynali, Danesh, E. N. Weyulu, S. Fathalli, B. Chandrasekaran, and A. Feldmann, "Promises and Potential of BBRv3," in *Passive and Active Measurement*, 2024. 🏆 Best Paper Award.

Zeynali, Danesh, E. N. Weyulu, S. Fathalli, B. Chandrasekaran, and A. Feldmann, "BBRv3 in the public Internet: a boon or a bane?," in *Applied Networking Research Workshop*, 2024.

T. Shreedhar, **Zeynali, Danesh**, O. Gasser, N. Mohan, and J. Ott, "A longitudinal view at the adoption of multipath tcp," in *arXiv*, 2022.

Zeynali, Danesh, F. Osali, and A. M. Afshin Hemmatyar, "Geographic routing with energy constraint in wireless multimedia sensor networks," in *27th Iranian Conference on Electrical Engineering (ICEE)*, 2019.

Employment

- **Max Planck Institute for Informatics** **Saarbrücken, Germany**
Graduate Research Assistant *Oct 2020–Present*
- **Nokia Bell Labs** **Antwerp, Belgium**
Ph.D. Research Intern *Dec 2025–Mar 2026*
- **MTN Irancell** **Tehran, Iran**
Packet Core Optimization Engineer *Jan 2019–Sep 2020*
- **Rightel** **Tehran, Iran**
Packet Core Planning Engineer *Sep 2016–Dec 2018*
- **PARMAN** **Tehran, Iran**
Network Management System Developer *Sep 2014–Aug 2016*
- **Iran Telecommunication Research Center** **Tehran, Iran**
Internship *Jun 2009–Sep 2009*

Students supervision and teaching assistance

- **Comprehensive Evaluation of BBRv2 and BBRv3 in the NS-3 Simulator**
Advisor for master's thesis – Felix Brinkmann, Saarland University *2024*
- **Evaluating the performance impact of ECN on BBRv3 using the NS-3 Simulator**
Advisor for bachelor's thesis - Julian Dietz, Saarland University *2024*
- **Hot Topics in Data Networks Seminar**
Organizer and Supervisor, Saarland University *2020-2025*
- **Data Networks**
Tutor, Saarland University *2020-2022*

Community service and conference attendance

- **Shadow TPC member:** IMC '22, IMC '25
- **In-person conference attendance:** CoNEXT '22, SIGCOMM '25, IETF/ANRW 126
- **Virtual conference attendance:** Netdev '22, PAM ('21, '22, '24), SIGCOMM '21, IMC '21, CoNEXT '21, IETF 120, IETF 121

Skills

- **Programming:** C++, Python (data analysis, visualization), P4, Shell scripting, Java, SQL
- **Networking Tools:** NS3 (CCA design and evaluation), Linux networking tools (tcpdump, lpsumdump, tc, iproute2), Wireshark (tshark), Zeek
- **Telecommunication Technologies:** Core technologies of 2G, 3G, and 4G (LTE)