

Reza Rejaie

Curriculum Vitae

Department of Computer Science

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Education

- 1996 – 1999 **Ph.D. in Computer Science**, *University of Southern California (USC)*, Los Angeles, CA.
Thesis: An End-to-End Architecture for Quality Adaptive Streaming Applications in the Internet.
Co-Advisors: Prof. Deborah Estrin, Prof. Mark Handley
- 1994 – 1996 **M.S. in Computer Science**, *University of Southern California (USC)*, Los Angeles, CA.
- 1986 – 1991 **B.S. in Electrical Engineering**, *Sharif University of Technology*, Tehran, Iran.

Professional Appointments

- 2026 – 2027 **Fulbright–Nokia Distinguished Chair in ICT**, *University of Helsinki, Finland*.
- 2023 – present **Founding Associate Director**, *Oregon Cybersecurity Center of Excellence*, University of Oregon.
- 2020 – 2026 **Department Head**, *Department of Computer Science*, University of Oregon.
- Summer 2018 **Visiting Professor**, *The LINCS Research Center*, Sorbonne University, Paris, France.
- 2017 – present **Founding Member**, *The Center for Digital Mental Health*, University of Oregon.
- Summer 2016 **Visiting Professor**, *Electronics & Telecom. Department*, Politecnico di Torino, Italy.
- 2015 – present **Professor**, *Department of Computer Science*, University of Oregon.
- 2009 – 2010 **Visiting Professor**, *IMDEA Networks Institute*, Madrid, Spain.
- 2008 – 2015 **Associate Professor**, *Department of Computer & Information Science*, University of Oregon.
- 2002 – 2008 **Assistant Professor**, *Department of Computer & Information Science*, University of Oregon.
- 2003 – present **Founder & Co-Director**, *Oregon Network Research Group (ONRG, originally MIRAGE)*, Department of Computer Science, University of Oregon.
- 1999 – 2002 **Senior Technical Staff Member**, *AT&T Labs - Research*, Menlo Park, CA.
- 1996 – 1999 **Graduate Research Assistant**, *Information Sciences Institute (ISI)*, Los Angeles, CA.
- 1994 – 1996 **Graduate Research Assistant**, *Integrated Multimedia Service Center (IMSC)*, University of Southern California (USC), Los Angeles, CA.

Awards & Recognition

- 2026-2027 **Fulbright–Nokia Distinguished Chair in Information and Communications Technologies**.
- 2025 **Golden Egg Innovator Award**, *University of Oregon*.
- 2022 **Distinguished Member of ACM**.
- 2021 **Ripple Faculty Fellowship**, *University of Oregon*.
- 2017 **IEEE Fellow**.
- 2009 **European Union Marie Curie Fellowship**.
- 2005 **National Science Foundation (NSF) CAREER Award**.

Publications

Note: * indicates students who were either my primary advisees at UO or directly supervised by me on the work reported in the publication.

Citations: 9,600+; h-index: 44; i10-index: 74 (July 2026)

Refereed Journal Articles

- [1] S. M. Hashemy Shahdany, R. Rejaie, "Integrating SEEA-water Accounting and Machine Learning for Transparent SOP Reform Under Non-cooperative Groundwater Use in Irrigation Districts", *Environmental Impact Assessment Review*, Volume 118, April 2026.
- [2] S. M. Hashemy Shahdany, A. R. Khakpour, R. Rejaie, "Operationalizing Water Rights Reform in Irrigation Districts Using a Water Accounting-based Decision Support System and Automated Operating Strategies", *Elsevier Journal of Computers and Electronics in Agriculture*, Volume 244, March 2026.
- [3] C. Misa*, R. Durairajan, R. Rejaie, W. Willinger, "DynATOS+: A Network Telemetry System for Dynamic Traffic and Query Workloads", *IEEE/ACM Transactions on Networking*, March 2024.
- [4] C. Misa*, R. Durairajan, R. Rejaie, W. Willinger, "Revisiting Network Telemetry in COIN: A Case for Runtime Programmability", *IEEE Network*, Special Issue on In-Network Computing: Emerging Trends for the Edge-Cloud Continuum, September 2021.
- [5] C. Costello, S. Srivastava, R. Rejaie, M. Zalewski, "Predicting Mental Health from Followed Accounts on Twitter", *Collabra: Psychology*, 7(1), Pages 1 - 25, January 2021.
- [6] R. Motamedi*, S. Jamshidi, R. Rejaie, W. Willinger, "Examining the Evolution of Twitter Elite Network", *Springer Social Network Analysis and Mining*, November 2019.
- [7] R. Motamedi*, B. Yeganeh, B. Chandrasekaran, R. Rejaie, B. Maggs, W. Willinger, "On Mapping the Interconnections in Today's Internet", *IEEE/ACM Transactions on Networking*, Volume 27, Issue 5, Pages 2056 – 2070, October 2019.
- [8] S. Jamshidi*, R. Rejaie, J. Li, "Characterizing the Dynamics and Evolution of Incentivized Online Reviews on Amazon", *Springer Social Network Analysis and Mining*, May 2019.
- [9] A. Safari Khatouni, M. Ajmone Marsan, M. Mellia, and R. Rejaie, "Deadline-Constrained Content Upload from Multihomed Devices: Formulations and Algorithms", *Elsevier Computer Networks*, Volume 142, Pages 76 - 92, May 2019.
- [10] R. Gonzalez, R. Cuevas, R. Motamedi, R. Rejaie, A. Cuevas, "Assessing the Evolution of Google+ in its First Two Years", *IEEE/ACM Transactions on Networking*, Volume 24, Issue 3, Pages 1813 – 1826, June 2016.
- [11] R. Motamedi*, R. Rejaie, W. Willinger, "A Survey of Techniques for Internet Topology Discovery", *IEEE Communications Surveys and Tutorials*, Volume 17, Issue 2, Pages 1044 – 1065, second quarter 2015.
- [12] R. Rejaie, N. Magharei*, "On Performance Evaluation of Swarm-based Live Peer-to-Peer Streaming Applications", *Springer Multimedia Systems Journal*, Volume 20, Issue 4, Pages 415 – 427, July 2014.
- [13] N. Magharei*, R. Rejaie, I. Rimać, V. Hilt, M. Hofmann, "ISP-friendly Live P2P Streaming", *IEEE/ACM Transactions on Networking*, Volume 22, Number 1, Pages 244 – 256, May 2013.

- [14] G. Memon*, J. Li, R. Rejaie, "Tsunami: A Parasitic, Indestructible Botnet on Kad", Peer-to-Peer Networking and Applications, Volume 7, Issue 4, Pages 444 – 455, April 2013.
- [15] R. Cuevas, M. Kryczka, A. Cuevas, S. Kaune, C. Guerrero, R. Rejaie, "Unveiling the Incentives for Content Publishing in BitTorrent Portals", IEEE/ACM Transactions on Networking, Volume 21, Number 5, Pages 1421 – 1436, December 2012 ([This paper was invited for a fast-track submission to this journal](#)).
- [16] G. Memon*, R. Rejaie, Y. Guo, D. Stutzbach, "Montra: A Large-Scale DHT Traffic Monitor", Computer Networks, Special Issue on Measurement-based Optimization of P2P Networking and Applications, Volume 56, Issue 3, Pages 1080 - 1091, February 2012.
- [17] N. Magharei*, R. Rejaie, Y. Guo, "Incorporating Contribution-Awareness into Mesh-based Peer-to-Peer Streaming Services", Peer-to-Peer Networking and Applications, Volume 4, Issue 3, Pages 231 - 250, September 2011.
- [18] R. Rejaie, M. Torkjazi, M. Valafar, W. Willinger, "Sizing up Online Social Networks", IEEE Network special issue on Online Social Networks, Volume 24, Number 5, Pages 32 - 37, September 2010.
- [19] N. Magharei*, R. Rejaie, "PRIME: Peer-to-Peer Receiver-driven Mesh-based Streaming", IEEE/ACM Transactions on Networking, Volume 17, Number 4, Pages 1052 - 1065, August 2009.
- [20] D. Stutzbach*, R. Rejaie, N. Duffield, S. Sen, W. Willinger, "On Unbiased Sampling for Unstructured Peer-to-Peer Networks", IEEE/ACM Transactions on Networking, Volume 17, Number 2, Pages 377 - 390, December 2008.
- [21] D. Stutzbach*, R. Rejaie, S. Sen, "Characterizing Unstructured Overlay Topologies in Modern Peer-to-Peer File-Sharing Systems", IEEE/ACM Transactions on Networking, Volume 16, Issue 2, Pages 267 - 280, April 2008
- [22] D. Stutzbach*, S. Zhao, R. Rejaie, "Characterizing Files in the Modern Gnutella Network", Springer-Verlag/Springer Multimedia Systems Journal, Volume 1, Issue 13, Pages 35 - 50, March 2007.
- [23] R. Rejaie, "Anyone Can Broadcast Video over the Internet", the Communications of the ACM, Special Issue on Entertainment Networking, Volume 49, Number 11, Pages 55 - 57, November 2006.
- [24] N. Magharei*, R. Rejaie, "Adaptive Receiver-driven Streaming from Multiple Senders", Springer Multimedia Systems Journal, Volume 11, Issue 6, Pages 550 - 567, April 2006.
- [25] R. Rejaie, M. Handley, D. Estrin, "Layered Quality Adaptation for Internet Video Streaming", IEEE Journal on Selected Areas of Communications (JSAC), Volume 18, Number 12, Pages 2530 - 2543, Special issue on Internet QoS, Winter 2000 [acceptance rate 11%].
- [26] S. Bajaj, L. Breslau, D. Estrin, K. Fall, S. Floyd, P. Haldar, M. Handley, A. Helmy, J. Heidemann, P. Huang, S. Kumar, S. McCanne, R. Rejaie, P. Sharma, K. Varadhan, Y. Xu, H. Yu, D. Zapalla, "Improving Simulation for Network Research", IEEE Computer, Volume 33, Pages 59 - 67, May 2000.
- [27] S. Ghandeharizadeh, R. Zimmermann, W. Shi, R. Rejaie, D. Ierardi, and T. Li, "MITRA: A Continuous Media Server", Multimedia Tools and Applications Journal (Kluwer Academic Publishers), Volume 5, Number 1, Pages 79 - 108, July 1997.

Non-Refereed Journal Articles

- [28] C. Misa*, D. Guse, O. Hohlfeld, R. Durairajan, A. Sperotto, A. Dainotti, R. Rejaie, "Lessons Learned Organizing the PAM Virtual Conference", *Computer Communication Review (CCR)*, Volume 50, Number 3, Pages 46 – 54, July 2020.
- [29] N. Magharei*, R. Rejaie, "ISP-Friendly P2P Streaming", *IEEE Multimedia Communications Technical Committee E-Letter, Invited Article*, October 2009.

Book Chapters

- [30] D. Stutzbach*, R. Rejaie, "Characterization of Peer-to-Peer Systems", book chapter, *Handbook of Peer-to-Peer Networking*, Editors Xuemin (Sherman) Shen, Heather Yu, John Buford, Mursalin Akon, Springer Publishing, March 2009, ISBN: 978-0-387-09750-3.
- [31] S. Ghandeharizadeh, R. Zimmermann, W. Shi, R. Rejaie, D. Ierardi, and T. Li, "MITRA: A Continuous Media Server", *Multimedia Technologies and Applications for the 21st Century*, (Editor Borko Furht), Kluwer Academic Publishers, Boston, December 1997, ISBN: 0-7923-8074-6.

Refereed Conference Papers

- [32] C. Misa*, W. Willinger, R. Durairajan, R. Rejaie, "There Is More to Internet Invariants Than Meets the Eye", In *Proceedings of New Ideas in Networked Systems (NINeS)*, February 2026.
- [33] M. A. Bermejo-Agueda, P. Callejo, R. Cuevas, Á. Cuevas, R. Durairajan, R. Rejaie, "Unveiling Network Performance in the Wild: An Ad-Driven Analysis of Mobile Download Speeds", In *Proceedings of the Web Conference (WWW)*, Sydney, Australia, April 2025. [Acceptance rate: 23%.]
- [34] J. Colton, R. Durairajan, R. Rejaie and W. Willinger, "On the Impact of Submarine Cable Deployments on Multi-cloud Network Latencies", In *Proceedings of IEEE International Conference on Cloud Networking (CloudNet)*, Rio de Janeiro, Brazil, November 2024. [Acceptance rate: 30%.]
- [35] C. Misa*, R. Durairajan, A. Gupta, R. Rejaie and W. Willinger, "Leveraging Prefix Structure to Detect Volumetric DDoS Attack Signatures with Programmable Switches", *IEEE Symposium on Security and Privacy (S&P)*, San Francisco, CA, May 2024. [Acceptance rate: 17.8%.]
- [36] Bahador Yeganeh*, R. Durairajan, R. Rejaie and Walter Willinger, "A Case for Performance- and Cost-aware Multi-cloud Overlays", *IEEE International Conference on Cloud Computing*, Chicago, IL, July 2023. [Acceptance rate: 20%.]
- [37] C. Misa*, W. O' Connor*, R. Durairajan, R. Rejaie and W. Willinger, "Dynamic Scheduling of Approximate Telemetry Queries", *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, Renton, WA, April 2022. [Acceptance rate: 19.7%.]
- [38] S. Jamshidi*, Z. Hammoudeh, D. Lowd, R. Durairajan, R. Rejaie and W. Willinger, "On the Practicality of Learning Models for Network Telemetry", *The Network Traffic Measurement and Analysis Conference (TMA)*, Berlin, Germany, June 2020.
- [39] B. Yeganeh*, R. Durairajan, R. Rejaie and W. Willinger, "A First Comparative Characterization of Multi-cloud Connectivity in Today's Internet", *Passive and Active Measurement Conference (PAM)*, Eugene, Oregon, March 2020. [Acceptance rate: 29.2%.]
- [40] K. Vermeulen, B. Ljuma, V. Krishna, M. Gouel, O. Fourmaux, T. Friedman and R. Rejaie, "Alias Resolution based on ICMP Rate Limiting", *Passive and Active Measurement Conference (PAM)*, Eugene, Oregon, March 2020. [Acceptance rate: 29.2%.]

- [41] B. Yeganeh*, R. Durairajan, R. Rejaie, W. Willinger, "How Cloud Traffic Goes Hiding: A Study of Amazon's Peering Fabric", ACM Internet Measurement Conference (IMC), Amsterdam, Netherlands, October 2019. [Acceptance rate: 20%].
- [42] R. Motamedi*, S. Rezayi, R. Rejaie, W. Willinger, "Unveiling Social Characteristics of Twitter Elite Network", IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM), Barcelona, Spain, August 2018 [acceptance rate 15%].
- [43] S. Jamshidi*, R. Rejaie, J. Li, "Trojan Horses in Amazon's Castle: Understanding the Incentivized Online Reviews", IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM), Barcelona, Spain, August 2018 [acceptance rate 15%].
- [44] B. Yeganeh*, R. Rejaie, W. Willinger, "A View From the Edge: A Stub-AS Perspective of Traffic Localization and Its Implications", IEEE/IFIP Network Traffic Measurement & Analysis Conference (TMA), Dublin, Ireland, June 2017 [acceptance rate 35%] (**One of the selected three papers for the best paper award**).
- [45] A. Safari Khatouni, M. Ajmone Marsan, M. Mellia, R. Rejaie, "Adaptive Schedulers for Deadline-Constrained Content Upload from Mobile Multihomed Vehicles", IEEE International Symposium on Local and Metropolitan Area Networks (LANMAN), Osaka, Japan, June 2017 [acceptance rate 34%].
- [46] R. Motamedi*, R. Rejaie, W. Willinger, D. Lowd, R. Gonzalez, "Inferring Coarse Views of Connectivity in Very Large Graphs", ACM Conference on Online Social Networks (COSN), Dublin, Ireland, October 2014 [acceptance rate 16%].
- [47] R. Farahbaksh, A. Cuevas, R. Cuevas, R. Rejaie, M. Kryczka, R. Gonzalez, N. Crespi, "Investigating the Reaction of BitTorrent Content Publishers to Antipiracy Actions", IEEE P2P, Trento, Italy, September 2013 [acceptance rate 20%].
- [48] R. Gonzalez, R. Cuevas, R. Motamedi, R. Rejaie, A. Cuevas, "Google+ or Google-? Dissecting the Evolution of the New OSN in its First Year", World Wide Web (WWW) Conference, Rio de Janeiro, Brazil, May 2013 [acceptance rate 15%].
- [49] A. Rasti*, N. Magharei, R. Rejaie, W. Willinger, "Eyeball ASes: From Geography to Connectivity", ACM SIGCOMM Internet Measurement Conference (IMC), Pages 192-198, Melbourne, Australia, November 2011 [acceptance rate 22%].
- [50] R. Cuevas, M. Kryczka, A. Cuevas, S. Kaune, C. Guerrero, R. Rejaie, "Is Content Publishing in BitTorrent Altruistic or Profit-Driven?", ACM SIGCOMM CoNEXT, Philadelphia, December 2010 [acceptance rate 19%](**One of the top 3 papers that were selected for fast-track submission to the IEEE/ACM Transactions on Networking**).
- [51] A. Rasti*, R. Rejaie, W. Willinger, "Characterizing the Global Impact of P2P Overlays on the AS-Level Underlay", Passive and Active Measurement Conference (PAM), Zurich, Switzerland, April 2010 [acceptance rate 29%].
- [52] A. H. Rasti*, M. Torkjazi, R. Rejaie, N. Duffield, W. Willinger, D. Stutzbach, "Respondent-driven Sampling for Characterizing Unstructured Overlays", IEEE INFOCOM Mini-Conference, Rio de Janeiro, Brazil, April 2009 [acceptance rate (including INFOCOM) 26.6%].
- [53] N. Magharei*, R. Rejaie, Y. Guo, "Mesh or Multiple-Tree: A Comparative Study on Live Peer-to-Peer Streaming Approaches", IEEE INFOCOM, Pages 1424 - 1432, Anchorage, Alaska, May 2007 [acceptance rate 17%].
- [54] N. Magharei*, R. Rejaie, "PRIME: Peer-to-Peer Receiver-driven Mesh-based Streaming", IEEE INFOCOM, Pages 1415 - 1423, Anchorage, Alaska, May 2007 [acceptance rate 17%].

- [55] C. Xie, S. Guo, R. Rejaie, Y. Pan, "Examining Graph Properties of Unstructured Peer-to-Peer Overlay Topology", IEEE Global Internet Symposium, Anchorage, Alaska, May 2007 [acceptance rate 35%].
- [56] A. Rasti*, R. Rejaie, "Understanding Peer-Level Performance in BitTorrent: A Measurement Study", IEEE International Conference on Computer Communications and Networks (Chairs Recommended paper), Honolulu, Hawaii, August 2007 [acceptance rate 29%].
- [57] N. Magharei*, Y. Gou, R. Rejaie, "Issues in Offering Live P2P Streaming Service to Residential Users", IEEE Consumer Communications and Networking Conference, Pages 757 - 762, Las Vegas, January 2007.
- [58] D. Stutzbach*, R. Rejaie, N. Duffield, S. Sen, W. Willinger, "On Unbiased Sampling for Unstructured Peer-to-Peer Networks", ACM SIGCOMM Internet Measurement Conference (IMC), Pages 27 - 40, Rio de Janeiro, Brazil, October 2006 [acceptance rate 22%] (one of the three papers nominated for the best-paper award).
- [59] D. Stutzbach*, R. Rejaie, "Understanding Churn in Peer-to-Peer Networks", ACM SIGCOMM Internet Measurement Conference (IMC), Pages 189 - 202, Rio de Janeiro, Brazil, October 2006 [acceptance rate 22%].
- [60] D. Stutzbach*, R. Rejaie, N. Duffield, S. Sen, W. Willinger, "Sampling Techniques for Large, Dynamics Graphs", IEEE Global Internet Symposium, Barcelona, Spain, April 2006 [acceptance rate 36% of 63].
- [61] A. Rasti*, D. Stutzbach*, R. Rejaie, "On the Long-term Evolution of the Two-tier Gnutella Overlay", IEEE Global Internet Symposium, Pages 1 - 6, Barcelona, Spain, April 2006 [acceptance rate 36% of 63].
- [62] D. Stutzbach*, R. Rejaie, "Improving Lookup Performance over a Widely-Deployed DHT", IEEE INFOCOM, Pages 1 - 12, Barcelona, Spain, April 2006 [acceptance rate 18% of 252].
- [63] S. Zhao*, D. Stutzbach*, R. Rejaie, "Characterizing Files in the Modern Gnutella Network: A Measurement Study", ACM/SPIE-IS&T Multimedia Computing and Networking, Volume 6071, Pages 1 - 13, San Jose, January 2006 [acceptance rate 25%].
- [64] D. Stutzbach*, R. Rejaie, S. Sen, "Characterizing Unstructured Overlay Topologies in Modern P2P File-Sharing Systems", ACM SIGCOMM Internet Measurement Conference (IMC), Pages 49 - 62, Berkeley, USA, October 2005 [acceptance rate 27% of 82].
- [65] D. Stutzbach*, D. Zappala, R. Rejaie, "The Scalability of Swarming Peer-to-Peer Content Delivery", Networking, Pages 15 - 26, Waterloo, Canada, May 2005 [acceptance rate 25% of 430].
- [66] D. Stutzbach*, R. Rejaie, "Capturing Accurate Snapshots of the Gnutella Network", IEEE Global Internet Symposium, Pages 127 - 132, Miami, USA, March 2005 [acceptance rate 32% of 67].
- [67] V. Agarwal*, R. Rejaie, "Adaptive Multi-Source Streaming in Heterogeneous Peer-to-Peer Systems", SPIE/ACM Multimedia Computing & Networking, Pages 13 - 25, San Jose, January 2005 [acceptance rate 16% of 100].
- [68] R. Rejaie, "On Design of Internet Multimedia Streaming Applications: An Architectural Perspective", IEEE International Conference on Multimedia and Expo (ICME), Pages 327-330, New York, USA, August 2000.

- [69] R. Rejaie, M. Handley, D. Estrin, "Architectural Considerations for Playback of Quality Adaptive Video over the Internet", IEEE International Conference on Networks (ICON), Pages 204 - 209, Singapore, September 2000.
- [70] R. Rejaie, H. Yu, M. Handley, D. Estrin, "Multimedia Proxy Caching Mechanism for Quality Adaptive Streaming Applications in the Internet", IEEE INFOCOM, Pages 980 - 989, Tel-Aviv, Israel, March 2000 [acceptance rate 26% of 735].
- [71] R. Rejaie, M. Handley, D. Estrin, "Quality Adaptation for Congestion Controlled Video Playback over the Internet", ACM SIGCOMM, Pages 189 - 200, Cambridge, USA, September 1999 [acceptance rate 12% of 190].
- [72] R. Rejaie, M. Handley, D. Estrin, "RAP: An End-to-end Rate-based Congestion Control Mechanism for Realtime Streams in the Internet", IEEE INFOCOM, Pages 1337 - 1345, New York, USA, March 1999 [acceptance rate 30% of 600].

Refereed Workshop Papers

- [73] C. Misa*, M. Nance-Hall, R. Rejaie, W. Willinger, and R. Durairajan, "Why Choose When You Can Have Both: Programmable Data Planes meet Programmable Optics", Workshop on Networks for AI Computing (NAIC) co-located with ACM SIGCOMM'25, Coimbra, Portugal, September 2025.
- [74] C. Misa*, R. Durairajan, R. Rejaie and W. Willinger, "Data-Fusion for Prefix-Level Inference: A DDoS Case Study", In Security Datasets for AI (SECDAI) workshop, virtual, April 2024
- [75] Y. Lavinia, R. Durairajan, R. Rejaie and W. Willinger, "Challenges in Using ML for Networking Research: How to Label If You Must", Workshop on Network Meets AI & ML (NetAI) co-located with ACM SIGCOMM, New York, USA, August 2020.
- [76] R. Tian*, R. Rejaie, "Re-examining the Complexity of Popular Websites", IEEE Workshop on Hot Topics in Web Systems and Technologies (HotWeb), Washington, D.C., November 2015; (**Received Best Student Paper Award**).
- [77] W. Willinger, R. Rejaie, M. Torkjazi, M. Valafar, M. Moggioni, "Research on Online Social Networks: Time to Face the Real Challenges", ACM SIGMETRICS Workshop on Hot Topics in Measurement and Modeling of Computer Systems (HotMetrics), Seattle, Washington, June 2009.
- [78] M. Torkjazi*, R. Rejaie, W. Willinger, "Hot Today, Gone Tomorrow: On the Migration of MySpace Users", ACM SIGCOMM Workshop on Online Social Networks (WOSN), Barcelona, Spain, August 2009.
- [79] M. Valafar*, R. Rejaie, W. Willinger, "Beyond Friendship Graphs: A Study of User Interactions in Flickr", ACM SIGCOMM Workshop on Online Social Networks (WOSN), Barcelona, Spain, August 2009.
- [80] N. Magharei*, R. Rejaie, "Overlay Monitoring and Repair in Swarm-based Peer-to-Peer Streaming", International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV), Williamsburg, Virginia, June 2009 [acceptance rate 31%].
- [81] G. Memon*, R. Rejaie, Y. Guo, D. Stutzbach, "Large-Scale Monitoring of DHT Traffic", International Workshop on Peer-to-Peer Systems (IPTPS), Boston, MA, April 2009 [acceptance rate 20%].
- [82] N. Magharei*, R. Rejaie, "Understanding Mesh-based Peer-to-Peer Streaming", International Workshop on Network and Operating Systems Support for Digital Audio and

Video(NOSSDAV), Pages 56 - 61, Newport, Rhode Island, May 2006 [acceptance rate 31% of 74].

- [83] R. Rejaie, S. Stafford, "A Framework for Architecting Peer-to-Peer Receiver-driven Overlays", International Workshop in Network and Operating Systems Support for Digital Audio and Video (NOSSDAV), Pages 42 - 47, Kinsale, Ireland, June 2004 [acceptance rate 25% of 95].
- [84] R. Rejaie, A. Ortega, "PALS: Peer-to-Peer Adaptive Layered Streaming", International Workshop in Network and Operating Systems Support for Digital Audio and Video (NOSSDAV), Pages 153 - 161, Monterey, USA, June 2003 [acceptance rate 30% of 60].
- [85] R. Rejaie, A. R. Reibman, "Design Issues for Layered Quality-Adaptive Internet Video Playback", International Workshop on Digital Communications, Pages 433-451, Taormina, Italy, September 2001.
- [86] R. Rejaie, Jussi Kangasharju, "Mocha: A Quality Adaptive Multimedia Proxy Cache for Internet Streaming", International Workshop in Network and Operating Systems Support for Digital Audio and Video (NOSSDAV), Pages 3 - 10, Port Jefferson, New York, June 2001. [acceptance rate 33% of 60].
- [87] R. Rejaie, M. Handley, H. Yu, D. Estrin, "Proxy Caching Mechanism for Multimedia Playback Streams in the Internet", 4th International Web Caching Workshop, Pages 100 - 111, San Diego, USA, March 1999 [acceptance rate 50% of 38].

Refereed Posters/Abstracts

- [88] A. Rasti*, R. Rejaie, W. Willinger, "Understanding the Effect of P2P Overlay On the AS-Level Underlay", ACM CoNEXT Student Workshop, Columbia University, New York, December 2007.
- [89] N. Magharei*, A. Rasti, D. Stutzbach, R. Rejaie, "Peer-to-Peer Receiver-driven Mesh-based Streaming", ACM SIGCOMM, Poster Session, Philadelphia, August 2005.
- [90] D. Stutzbach*, R. Rejaie, "Characterizing the Two-Tier Gnutella Topology", ACM SIGMETRICS, Poster Session, Pages 402 - 403, Alberta, Canada, June 2005.
- [91] D. Stutzbach*, R. Rejaie, "Evaluating the Accuracy of Captured Snapshots by Peer-to-Peer Crawlers", Passive & Active Measurement Workshop, Extended abstract, Pages 353 - 357, Boston, USA, March 2005.
- [92] R. Rejaie, "On Integration of Congestion Control with Internet Streaming Applications", Packet Video Workshop, Nantes, France, April 2003.

U.S. Patent

- [93] R. Rejaie, R. Durairajan, C. Misa, and W. Willinger; "A Method for Dynamic Resource Scheduling of Programmable Dataplanes for Network Telemetry;" Patent number: 12245369; Filed: January 13, 2023; Issued: March 11, 2025

Grants

Oregon Legislature	Oregon Cybersecurity Center of Excellence (branch at UO) , <i>Reza Rejaie (PI)</i> , State of Oregon Higher Education Coordinating Commission (HECC), (7/2025 – 6/2027), \$1.4M.
SLCGP	Risk Inspection & Security Knowledge (RISK) Clinic , <i>Jose Dominguez (PI)</i> , <i>Reza Rejaie (co-PI)</i> , Oregon Department of Emergency Management (OEM), State/Local Cyber Security Grant Program (6/2025 - 5/2027), \$220K.
Fortinet	Cybersecurity Equipment , <i>Reza Rejaie (PI)</i> , Fortinet Inc., Equipment Donation (2025), \$110K.

- NSA **GenCyber Summer Camp for High School Students**, *Reza Rejaie (PI)*, National Security Agency (NSA) (9/2024 - 9/2026), \$65K.
- HECC **NICE: Nurturing Inclusive Cybersecurity Education**, *Reza Rejaie (PI)*, State of Oregon Higher Education Coordinating Commission (HECC), Technology Workforce Ready Program (7/2024 – 6/2026), \$500K.
- Oregon Legislature **Oregon Cybersecurity Center of Excellence (branch at UO)**, *Reza Rejaie (PI)*, State of Oregon Higher Education Coordinating Commission (HECC), (7/2023 – 6/2025), \$1.125M.
- NSF **CNS Core: Medium: Distributed Runtime Dataplane Telemetry as an Adaptive Query Scheduling Problem: Algorithms and Applications**, *Reza Rejaie (PI)*, *Ram Durairajan (co-PI)*, *Walter Willinger*, National Science Foundation (10/2022 – 9/2026), \$1,056K.
- NSF **CC* Integration-Large: Bringing Code to Data: A Collaborative Approach to Democratizing Internet Data Science**, *Ram Durairajan (PI)*, *Reza Rejaie (co-PI)*, *David Teach (co-PI)*, *Arpit Gupta (co-PI)*, *Walter Willinger*, National Science Foundation (10/2021 – 9/2023), \$989K.
- Ripple **Ripple Faculty Fellowship**, *Reza Rejaie (PI)*, (9/2021 – 8/2022), \$50K.
- Broadcom **Programmable Switches**, *Reza Rejaie (PI)*, Broadcom Inc., Equipment Donation (2018 – 2025), \$80K.
- NSF **NeTS: Small: Collaborative Research: Studying Internet Interconnections in the Era of Cloud Computing**, *Reza Rejaie (PI)*, *Bruce Maggs (co-PI)*, *Walter Willinger*, National Science Foundation (8/2017 – 7/2020), \$412K (\$412K).
- NSF **Personality Reputation Formation and Network Structure on Computer Technologies**, *Sanjay Srivastava (PI)*, *Reza Rejaie (co-PI)*, National Science Foundation (9/2016 – 8/2019), \$740K (\$740K).
- NIH **A Common Framework for Big Data Mental Health Research on Twitter**, *Sanjay Srivastava (PI)*, *Reza Rejaie (co-PI)*, National Institutes of Health (9/2015 – 8/2017), \$375K (\$375K).
- NSF **NeTS: Small: Towards an Accurate, Geo-Aware, PoP-Level Perspective of the Internet's Inter-AS Connectivity**, *Reza Rejaie (PI)*, *Bruce Maggs (co-PI)*, *Walter Willinger (co-PI)*, National Science Foundation (10/2013 – 9/2016), \$532K (\$532K).
- NSF **CC-NIE: Network Infrastructure: Bridging Open Networks for Scientific Applications and Innovation (BONSAI)**, *Reza Rejaie (PI)*, *Jose Dominguez (co-PI)*, *Kimberly Espy (co-PI)*, *Gregory Bothun (co-PI)*, *Allen Malony (co-PI)*, National Science Foundation (7/2013 – 6/2014), \$508K (\$508K).
- Dell **SDN Switch**, *Reza Rejaie*, Dell Inc., Equipment Donation (2013), \$32K.
- NSF **Multi-Resolution Analysis and Measurement of Large-Scale, Dynamic Networked Systems with Applications to Online Social Networks**, *Reza Rejaie (PI)*, *Walter Willinger*, National Science Foundation (9/2009 – 8/2012), \$355K.
- NSF **Nets-NBD: Characterizing Large-Scale, Dynamics Peer-to-Peer Networks: New Sampling and Modeling Approach**, *Reza Rejaie (Sole PI)*, National Science Foundation (9/2006 – 8/2009), \$300K.
- Cisco **Characterizing and Modeling the Dynamics of Peer-to-Peer Networks**, *Reza Rejaie (Sole PI)*, Cisco Systems - Unrestricted Gift (8/2006 – 7/2007), \$78K.
- Thomson Lab **Contribution-Aware Peer-to-Peer Streaming**, *Reza Rejaie (Sole PI)*, Thomson Corporate Research at Princeton, NJ - Unrestricted Gift (2006), \$20.3K.
- NSF **CAREER: A Receiver-Driven Framework for Scalable and Adaptive Peer-to-Peer Streaming**, *Reza Rejaie (Sole PI)*, National Science Foundation (2/2005 – 1/2010), \$410K.

Advising

Current Postdoc

2024– **Chris Misa**, (Co-advised with Ramakrishnan Durairajan).

Current Doctoral Students

2026– **Mana Atarod**.

2024– **Shayan Shabanzadeh**.

Current BS Students

2025– **Oliver Boorstein**.

Ph.D. Dissertations Supervised

2019–2024 **Chris Misa** (Co-advised with Ramakrishnan Durairajan), *Thesis: Traffic Structure-Aware Network Telemetry Systems: Foundations, Designs, and Applications*, Award: Ripple Graduate Fellowships (2021, 2022), Pall Scholarship.

2014–2020 **Soheil Jamshidi**, *Thesis: The applications of Machine Learning Techniques in Networked Systems*, Award: Seeley Scholarship. First Employment: Amazon.

2013–2019 **Bahador Yeganeh** (Co-advised with Ramakrishnan Durairajan), *Thesis: Measuring the Evolving Internet in the Cloud Computing Era: Infrastructure, Connectivity, and Performance*, Award: Seeley Scholarship, Hubbard Scholarship, Pall Scholarship. First Employment: Snapchat Inc.

2010–2016 **Reza Motamedi**, *Thesis: Measurement-based Characterization of Large-Scale Networked Systems*, Award: Pall Scholarship, Julifs Scholarship, Dixon Graduate Innovation Award, First Employment: Twitter.

2005–2012 **Amir H. Rasti**, *Thesis: Investigating the Mutual Impact of the P2P Overlay and the AS-Level Underlay*, Award: Julifs Scholarship.

2005–2010 **Nazanin Magharei**, *Thesis: Peer-to-Peer Streaming: Design and Challenges*, Award: Julifs Scholarship, Smith Memorial Science Fellowship, First Employment: Cisco.

2004–2006 **Daniel Stutzbach**, *Thesis: Measuring and Characterizing Peer-to-Peer Systems*, Award: CIS Nomination for the ACM Dissertation Award, Dunbar Scholarship, First Employment: Google.

M.S. Thesis Supervised

2023–2025 **Mana Atarod** (Co-advised with Ramakrishnan Durairajan), *Thesis: IRIS: An Interactive Programmable Fine-Grained Network Telemetry System*.

2020–2023 **Walt O'Connor**, *Thesis: On the Multi-Fractal Nature of Observed IP Addresses in Measured Internet Traffic*.

2017–2018 **Hooman Mostafavi**, *Thesis: A Longitudinal Assessment of Website Complexity*, First Employment: Amobee.

2013–2017 **Saed Rezayi**, *Thesis: Content Propagation in Google+: A Study of Ripples*.

2013–2017 **Ran Tian**, *Thesis: Re-examining the Complexity of Popular Web Sites*.

2013–2014 **Abhijit Alur**, *Thesis: Gathering Information about Network Infrastructure from DNS Names and Its Applications*, First Employment: JP Morgan Chase & Co.

2007–2010 **Mojtaba Torkjazi**, *Thesis: On the Migration of MySpace Users*, Award: Howe Scholarship, First Employment: Google.

2007–2010 **Masoud Valafar**, *Thesis: Beyond Friendship Graphs: A Study of User Interactions in Flickr*, First Employment: Twitter.

2006–2010 **Ghulam Memon**, *Thesis: Large-Scale Monitoring of DHT Traffic*, Award: Julifs Scholarship, Dunbar Scholarship, First Employment: Amazon.

- 2004–2005 **Shanyu Zhao**, *Thesis: Characterizing Files in the Modern Gnutella Network - A Measurement Study*, First Employment: Microsoft.
- 2003–2005 **Vikash Agarwal**, *Thesis: Adaptive Multi-Source Streaming in Heterogeneous Peer-to-Peer Systems*, First Employment: Cisco.
- 2003–2004 **Shad Stafford**, *Thesis: A Framework for Architecting Peer-to-Peer Receiver-driven Overlays*, First Employment: Palo Alto Software.
- B.S. Honors Thesis Supervised**
- 2023–2024 **Nathan Koga** (REU), *Thesis: Multi-level Application-centric Profiling of UO Internet Traffic*, Award: Hubbard Scholarship.
- 2021–2022 **Eugene Tan** (REU), *Thesis: Visualizing the Structure of Network Traffic Features Across the IP Address Space*, Award: Seeley Scholarship.
- 2021–2022 **Megan Walters** (REU), *Thesis: On the Multifractal Structure of Observed Internet Addresses*, Award: Juilfs Scholarship.
- 2020–2021 **Donna Hooshmand** (REU), *Thesis: Longitudinal Analysis of Major Video Streaming Services*, Award: Seeley Scholarship.
- 2016–2017 **Andrew Hill** (REU), *Thesis: Characterizing the Divergence of Intra-Country Internet Routes*.
- 2015–2016 **Phillip Kriegel** (REU), *Thesis: Determining the Location of Interconnects between the Top-Tier Autonomous Systems in the USA*, Award: Phi Beta Kappa Member, Phi Beta Kappa Oregon Six, Magna Cum Laude, Aaron Novick Award, CHC Thesis Award; First Employment: Google.
- 2013–2014 **Zhuojun (Morgan) Zhang**, *Thesis: Examining AS Relationships and Path Diversity with Looking Glass Servers*, Award: Juilfs Scholarship.
- 2008–2009 **Jimmy Hastings** (REU), *Thesis: Implementation and Evaluation of PRIME: A Peer-to-Peer Streaming Mechanism for Live Video*.

Visiting Scholars Hosted at UO

- 2025 **Prof. Seied Mehdy Hashemy**, *University of Tehran*.
- Summer 2025 **Prof. Ruben Cuevas**, *Universidad Carlos III de Madrid*.
- Summer 2024 **Prof. Ruben Cuevas**, *Universidad Carlos III de Madrid*.
- Summer 2023 **Prof. Ruben Cuevas**, *Universidad Carlos III de Madrid*.
- Summer 2016 **Prof. Víctor M. López Millán**, *Universidad CEU-San Pablo, Madrid*.
- Summer 2014 **Roberto Gonzalez**, *Ph.D. Student, Universidad Carlos III de Madrid*.
- 2012–2013 **Prof. Ruben Cuevas**, *Universidad Carlos III de Madrid*.

Professional Service

Organization Committee

- 2020 General Co-Chair, The Passive and Active Measurement (PAM) Conference
- 2020–2022 Advisory Board Member, Technology Association of Oregon (TAO-SWV)
- 2013–2014 Advisory Board Member, Enhanced Content Distribution with Social Information Consortium
- 2009 Technical Program Co-Chair, Multimedia Computing and Networking
- 2008 Technical Program Co-Chair, Multimedia Computing and Networking
- 2007 Technical Program Chair, ACM NOSSDAV
- 2007 Technical Program Co-chair, IEEE Global Internet Symposium
- 2006 Chair, Doctoral Symposium, ACM Multimedia
- 2004 Chair, Travel Grant Committee, IEEE INFOCOM
- 2001–present Member, the Council of Communications and Technology Advisors (www.thecouncils.com)

Journal Editorial Boards

- 2017–2018 IEEE Transactions on Mobile Computing
- 2008–2018 ACM/Springer Multimedia Systems Journal
- 2007–2015 Springer Journal in P2P Networking and Applications
- 2006–2009 Journal of Advances in Multimedia
- 2009–2011 Computer Networks
- 2002–2008 IEEE Communications Surveys & Tutorials (Multimedia Networking)

Technical Program Committees

Served on the technical program committees of numerous conferences, including ACM SIGCOMM, ACM Internet Measurement Conference (IMC), The Web Conference (WWW), IEEE INFOCOM, IEEE ICDCS, ACM Multimedia, IEEE/ACM ASONAM, ACM NOSSDAV, and others. Distinguished Member of the Technical Program Committee, IEEE INFOCOM (2016). [\[complete list\]](#)

Grant Review Panelist

- 2012 National Science Foundation (NSF)
- 2011 Qatar National Research Fund (QNRF)
- 2009 National Science Foundation (NSF)
- 2004 National Science Foundation (NSF)

Selected University & Department Service

- 2023–2024 Member, Implementation Team, School of Computer and Data Science
- 2022–2023 Member, Strategic Planning Committee, School of Computer and Data Science
- 2021–2022 Member, Dean's Heads Council, College of Arts and Sciences
- 2017–2018 Chair, Dean's Advisory Committee, College of Arts and Sciences
- 2012–2016 Senator, UO Faculty Senate
- 2010–2011 Senator, UO Faculty Senate
- 2008–2009 Senator, UO Faculty Senate

Selected Talks

- 2026 *"Oregon Cybersecurity Center of Excellence: Advancing Security Through Collaboration"*, CityClub of Eugene (Panel), Eugene, Oregon.
"One Click Away: Why Cybersecurity Matters to You", Springfield City Club, Springfield, Oregon.
"Oregon Cybersecurity Center of Excellence (OCCoE)", Oregon ISC2 Chapter, Virtual.
- 2025 *"Oregon Cybersecurity Center of Excellence (OCCoE)"*, Oregon Association of Government – Information Technology management (OAGITM), Eugene, Oregon.
- 2024 *"Oregon Cybersecurity Center of Excellence (OCCoE)"*, Oregon Cyber Resilience Summit (O CRS), Eugene, Oregon.
"Research, Education and Innovation at UO to Enhance Oregon's Security and Resiliency Posture", FBI Summit, Portland, Oregon.
- 2023 *"Overbuilding? or Futureproofing?"*, Panelist, Oregon Connections Conference, Ashland, Oregon.
"Enhancing Cybersecurity in Oregon Through Closer Partnership Among Stakeholder", Invited Talk, FBI Cyber Summit, Portland, Oregon.

- 2018 *"How Cloud Traffic Goes Hiding? A Study of Amazon Interconnection Fabric"*, Invited Talk, Telecom Paris Tech University, Paris, France.
"On Mapping the Interconnections of Today's Internet", Invited Talk, LINCS Research Center, Paris, France.
- 2016 *"On the Geography of X-Connect"*, Invited Talk, Politecnico di Torino, Italy.
- 2014 *"Inferring Coarse Views of Connectivity in Very Large Graphs"*, Invited Talk, IMDEA Networks Institute, Madrid, Spain.
- 2011 *"Characterizing the Impact of P2P Overlay on AS-level Underlay"*, Invited Feature Speaker, Reunion Workshop on "Multiscale Representation, Analysis and Modeling of Internet Data and Measurements", UCLA's Institute for Pure & Applied Mathematics (IPAM), Lake Arrowhead, USA.
- 2009 *"ISP-friendly Swarm-based P2P Streaming"*, Invited Talk, Carlos III University of Madrid, Spain.
"ISP-friendly Swarm-based P2P Streaming", Invited Talk, Telefonica Research Lab, Barcelona, Spain.
- 2008 *"Empirical Characterizations of P2P Systems"*, Invited Talk, Workshop on "Multiscale Representation, Analysis and Modeling of Internet Data and Measurements", Institute for Pure & Applied Mathematics (IPAM), UCLA.
"Empirical Characterizations of P2P Systems", Invited Talk, SIAM Symposium on The Many Faces of Internet Topology, San Diego, USA.
"P2P and Online Networking Research at Mirage Group", Invited Talk, Microsoft Research, Redmond, USA
- 2007 *"IonP2P: Measurement-based Characterization of P2P Networks"*, Invited Talk, Microsoft Research, Redmond, USA.
"Unbiased Sampling for Unstructured Peer-to-Peer Networks", Distinguished Lecture Series, Cisco Systems, San Jose, USA.
"IonP2P: Measurement-based Characterization of P2P Networks", Invited Talk, UIUC, USA
- 2006 *"Understanding Mesh-based Peer-to-Peer Streaming"*, Invited Talk, Multimedia Workshop, Microsoft Research, Redmond, USA.
"Research Projects at the MIRAGE Group", Invited Talk, Cisco Systems, San Jose, USA.
- 2005 *"Characterizing Overlay Topologies and Dynamics in Peer-to-Peer Networks"*, Invited Talk, IEEE Computer Communications Workshop, Huntington Beach, USA.
"Measurement-based Characterization of Unstructured Peer-to-Peer Networks", Invited Talk, Sharif University of Technology, Tehran, Iran.
"Measurement-based Characterization of Gnutella", Invited Talk, Intel Research Lab, UC Berkeley, USA.
"Measurement-based Characterization of Gnutella", Computer Science Colloquium, HP Labs, Palo Alto, USA.
"Peer-to-Peer Network Research at Mirage Group", Invited Talk, Intel Corporation, Hillsboro, USA.
- 2004 *"Adaptive Multimedia Streaming over Peer-to-Peer Receiver-driven Overlays"*, Invited Talk, Multimedia Workshop, Columbia University, USA.
- 2003 *"PALS: Peer-to-Peer Adaptive Layered Streaming"*, Computer Science Colloquium, HP Labs, Palo Alto, USA.

Teaching

Note: * denotes courses developed by me.

- CIS432/532 **Introduction to Computer Networks***, [Fall 2003] [Fall 2004] [Fall 2005] [Fall 2007] [Fall 2010] [Fall 2012] [Fall 2014] [Fall 2015] [Fall 2017] [Fall 2019] [Fall 2024].
- CIS630 **Distributed Systems***, [Spring 2014] [Spring 2015] [Spring 2016] [Spring 2017] [Winter 2018] [Spring 2019].
- CIS632 **Computer Networks***, [Spring 2014] [Spring 2015] [Spring 2016] [Spring 2017] [Winter 2018] [Spring 2019].
- CIS410/510 **System and Network Administration Lab***, [Spring 2015] [Winter 2019] [Winter 2020].
- CIS610 **Network Measurement***, [Spring 2004] [Spring 2005].
- CIS415 **Operating Systems**, [Spring 2003] [Spring 2008] [Fall 2013].
- CIS314 **Computer Organization**, [Fall 2006] [Fall 2008] [Fall 2011].
- CIS610 **Software-Defined Networking***, [Spring 2013].
- CIS410/510 **Wireless & Mobile Networks***, [Fall 2016].
- CIS410/510 **Internet Multimedia***, [Winter2003].
- CIS410/510 **P2P Networking***, [Spring 2006].
- CIS410/510 **Online Social Networking***, [Winter 2009].
- CIT383 **Enterprise Networking**, [Spring 2009].

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