

Chris Misa
Curriculum Vitae
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EDUCATION

- (2024) Ph.D., Computer Science, University of Oregon (GPA 4.0).
- (2018) Postbac, Computer and Information Science, University of Oregon (GPA 4.0).
- (2014) BMus, Composition, DePaul University, Chicago (Honors program).

RESEARCH INTERESTS

- AI/ML for secure, efficient, and robust networks.
- Network systems, programmability, and measurement.
- Statistical models of network traffic.
- Satellite networking and space physics
- Next-generation Internet architecture.

PROFESSIONAL APPOINTMENTS

- (2024—ongoing) Network Research Analyst, Department of Computer Science, University of Oregon.
- (2024) Computer Systems Faculty, Computer Systems Department, Linn-Benton Community College.
- (2019—2024) Graduate Research Assistant, Oregon Networking Research Group, University of Oregon.
- (2022) Research Intern, Futurewei Technologies Inc. (sponsored by Huawei), Bellevue, WA.
- (2018) Undergraduate Research Assistant, Department of Computer Science, University of Oregon.

CONFERENCE & WORKSHOP PUBLICATIONS

(2026) A Unifying Framework for Streaming Query Languages. Anthony Dario, Chris Misa, Zena M. Ariola, *ACM SIGCOMM Workshop on Formal Methods Aided Network Operation (FMANO)*.

There is More to Internet Invariants Than Meets the Eye. Chris Misa, Walter Willinger, Ramakrishnan Durairajan, Reza Rejaie, *OASICS 1st New Ideas in Networked Systems (NINeS)* (pp. 22:1-22:26).

(2025) Sustainability or Survivability? Eliminating the Need to Choose in LEO Satellite Constellations. Chris Misa and Ramakrishnan Durairajan, *Proceedings of the ACM Workshop on Hot Topics in Networks (HotNets)* [**CCF Class C**] (pp. 123–130).

The Internet from Space, Reimagined: Leveraging Altitude for Efficient Global Coverage. Chris Misa and Ramakrishnan Durairajan, *Proceedings of the International Workshop on LEO Networking and Communication (LEO-NET)* (pp. 57-63).

Why Choose When You Can Have Both: Programmable Data Planes Meet Programmable Optics. Chris Misa, Matthew Nance-Hall, Reza Rejaie, Walter Willinger, Ramakrishnan Durairajan, *Proceedings of the ACM SIGCOMM Workshop on Networks for AI Computing (NAIC)* (pp. 26-33).

(2024) Leveraging Prefix Structure to Detect Volumetric DDoS Attack Signatures with Programmable Switches. Chris Misa, Ramakrishnan Durairajan, Arpit Gupta, Reza Rejaie, Walter Willinger, *Proceedings of the IEEE Symposium on Security and Privacy (S&P)* [**CCF Class A**] (pp. 4535-4553). (Acceptance rate: 17.8%.)

(2022) Dynamic Scheduling of Approximate Telemetry Queries. Chris Misa, Ramakrishnan Durairajan, Reza Rejaie, Walter Willinger, *Proceedings of the USENIX Symposium on Networked Systems Design and Implementation (NSDI)* [**CCF Class A**] (pp. 701-717). (Acceptance rate: 19.7%.)

(2019) Can We Containerize Internet Measurements? Chris Misa, Sudarsun Kannan, Ramakrishnan Durairajan *Proceedings of the ACM/IRTF/ISOC Applied Networking Research Workshop (ANRW)* (pp. 52-58).

JOURNAL PUBLICATIONS

(2024) DynATOS+: A Network Telemetry System for Dynamic Traffic and Query Workloads. Chris Misa, Ramakrishnan Durairajan, Reza Rejaie, Walter Willinger, *IEEE/ACM Transactions on Networking (ToN)*, [**CCF Class A**] 32(4), 2810-2825.

(2021) Revisiting Network Telemetry in COIN: A Case for Runtime Programmability. Chris Misa, Ramakrishnan Durairajan, Reza Rejaie, Walter Willinger, *IEEE Network (Special Issue on In-Network Computing: Emerging Trends for the Edge-Cloud Continuum)*,

35(5), 14-20.

(2020) Lessons Learned Organizing the PAM 2020 Virtual Conference. Chris Misa, Dennis Guse, Oliver Hohlfeld, Ramakrishnan Durairajan, Anna Sperotto, Alberto Dainotti, Reza Rejaie, *ACM SIGCOMM Computer Communication Review (CCR)*, 50(3), 46-54.

POSTERS

(2025) Using the Multifractal Spectrum for Fingerprinting Sets of Observed IP Addresses. Chris Misa, Walter Willinger, Ramakrishnan Durairajan, Reza Rejaie, *ACM International Conference on emerging Networking EXperiments and Technologies (CoNEXT)*. [**CCF Class B**]

(2022) Cloud Gateways Need Better Top-n Detection for Fine-grained Offloading. Chris Misa, Longzhang Fu, Riff Jiang, Liguang Xie, *ACM Symposium on Cloud Computing (SoCC)*. [**CCF Class B**]

(2018) Dynamic Measurement of Container Network Latency. Chris Misa and Ramakrishnan Durairajan, *ACM Internet Measurement Conference (IMC)*. [**CCF Class B**]

PATENTS

(2025) Method for Dynamic Resource Scheduling of Programmable Dataplanes for Network Telemetry. Reza Rejaie, Ramakrishnan Durairajan, Chris Misa, Walter Willinger, *US Patent #12248477*.

PRE-PRINTS

(2025) The Multifractal IP Address Structure: Physical Explanation and Implications. Chris Misa, Ramakrishnan Durairajan, Arpit Gupta, Reza Rejaie, Walter Willinger, *arXiv:2504.01374*, April 2.

FUNDING & GRANTS

As Principle Investigator:

(2026—2028) CICI: TCR: Realizing the Potential of Multifractal Address-Structure Anomaly Detection to Security Cyberinfrastructure Against Unsolicited Internet Traffic, NSF #2613540, \$1.2M.

(2020—2022) Ripple Fellowship, Ripple, Inc., \$180k.

(2018) Undergraduate Research Fellowship, Vice President for Research and Innovation, University of Oregon, \$5k.

As Consultant:

(2022—2026) CNS Core: Medium: Distributed Runtime Dataplane Telemetry as an Adaptive Query Scheduling Problem: Algorithms and Applications, NSF #2212590, \$1.1M.

AWARDS & HONORS

(2025) Golden Egg Innovation Award, University of Oregon.

(2022) Phillip Seeley Graduate Fellowship, University of Oregon.

(2020) Gurdeep Pall Graduate Student Fellowship, University of Oregon.

(2018) Clarence and Lucille Dunbar Scholarship, University of Oregon.

Erwin and Gertrude Juilfs Scholarship in Computer and Information Science, University of Oregon.

(2009–2014) University Honors Program, DePaul University.

INVITED TALKS

(2025) What Should the Network be Doing vs. What is the Network Actually Doing: Exploring the Intersection of Verification and Traffic Monitoring. Cornell University, November 20.

How to Leverage the Capabilities of Programmable Switch Hardware for Efficient Real-Time Detection of Malicious Traffic. Oregon Cybersecurity Center of Excellence, Research Seminar Series, April 4.

(2024) Data-Fusion for Prefix-Level Inference: a DDoS Case Study. USC/ISI Security Datasets for AI (SECDAI) 2024 Virtual Workshop, April 18.

(2023) Designing Traffic Monitoring Systems for Self-Driving Networks. ACM SIGMETRICS Measurements for Self-Driving Networks 2023 Workshop, June 19.

TEACHING & MENTORING EXPERIENCE

Courses

Programming in JavaScript, Instructor, Linn-Benton Community College, Spring 2024.

C/C++ and Unix, Teaching Assistant, University of Oregon, Winter and Spring 2019.

Principles of Programming Languages, Tutor, University of Oregon, Fall 2018.

M.S. Alumni

(2023—2025) Mana Atarod (thesis; first employment: Meta, Inc.).

(2020—2023) Walt O'Connor.

Undergraduate Alumni

(2023—2024) Nathan Koga (honors thesis).

(2021—2022) Megan Walter (honors thesis).

(2020—2022) Eugene Tan (honors thesis).

(2019—2020) Nolan Rudolph (honors thesis; first employment: Splunk, Inc.).

SERVICE TO PROFESSION

Reviewer, *ACM SIGCOMM Computer Communication Review (CCR)*, 2026.

Artifact Evaluation Committee, *USENIX Symposium on Networked Systems Design and Implementation (NSDI)* [**CCF Class A**], 2026.

Reviewer, *IEEE Transactions on Aerospace and Electronic Systems*, 2026.

Reviewer, *IEEE/ACM Transactions on Networking (ToN)* [**CCF Class A**], 2025.

Shadow Program Committee, *ACM International Conference on emerging Networking Experiments and Technologies (CoNEXT)* [**CCF Class B**], 2025.

Reviewer, *Springer, The Journal of Supercomputing* [**CCF Class C**], 2024, 2026.

Reviewer, *IEEE Communications Magazine*, 2024.

Reviewer, *IEEE International Conference on Parallel and Distributed Systems* [**CCF Class C**], 2023.

Presentation Chair, *Passive and Active Measurement Conference* [**CCF Class C**], 2020.

RELATED PROFESSIONAL EXPERIENCE

(2020—2024) Server Administrator, Oregon Networking arch Group, University of Oregon.

(2016—2020) Freelance Web Developer, Various Oregon Businesses.

PROFESSIONAL MEMBERSHIPS

(2024) ACM SIGCOMM

(2020) ACM

APPOINTMENTS UNRELATED TO CURRENT PROFESSION

(2015—2017) Instructor, Continuing Education, Lane Community College, Eugene, Oregon.

(2015—2018) Instructor, The Eugene Piano Academy, Eugene, Oregon.

LANGUAGES

- Native English.
- Proficient Mandarin.