Liz Izhikevich

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Research Overview

My research brings a data-driven approach to understanding and improving the Internet's performance and security. I build systems that collect data about network, operator, and attacker behaviors. I use quantitative analysis, including rigorous statistics, on the data my systems collect to surface operational challenges and threats.

Positions

- Assistant Professor, Electrical and Computer Engineering, *University of California, Los Angeles* July 2024–Present
- Researcher, *Netflix* June 2023–May 2024, May 2025–Present
- Research Scientist, *Censys* June 2024–May 2025

Education

- Ph.D. in Computer Science, *Stanford University* 2018–2024
  Dissertation: "A Comprehensive and Real-Time View of the Internet Service Ecosystem"
  Advisor: Zakir Durumeric
- M.S. in Computer Science, *University of California, San Diego* 2017–2018
  Thesis: "Building and Breaking Burst-Parallel Systems"
  Advisors: Geoff Voelker and George Porter
- B.S. in Computer Science, *University of California, San Diego* 2014–2017
  Minor: Mathematics

Honors and Awards

- Forbes 30 Under 30, Science 2025
- Invited Mentor for Pulse Research Fellows, Internet Society 2025
- EECS Rising Star, International Recognition 2023
- Community Impact Award, Stanford University 2023
- Student Services Award, Stanford University Computer Science Department 2023
- Community Contribution Paper Award, ACM Internet Measurement Conference 2022
- Graduate Research Fellowship, National Science Foundation ("NSF GRFP") 2018
- Graduate Fellowship in Science and Engineering, Stanford University ("Stanford SGF") 2018
- Department Award for Excellence in Teaching, UC San Diego 2018

Publications

† indicates mentee, ∗ indicates co-first authorship

Conference Proceedings

[1] H. Clark, J. Cody, Z. Durumeric, M. Ellison, L. **Izhikevich**, and A. Mirian, "Censys: A Map of Internet Hosts and Services", in *Proceedings of the ACM SIGCOMM Conference*, 2025.

[2] L. **Izhikevich**, R. Engardt, T. Huang, and R. Teixeira, "A Global Perspective on the Past, Present, and Future of Video Streaming over Starlink", in *ACM SIGMETRICS/IFIP Performance*, 2025.

[3] K. Izhikevich†, G. Voelker, S. Savage, and L. **Izhikevich**, "Using Honeybuckets to Characterize Serverless Storage Scanning in the Wild", in *IEEE European Symposium on Security and Privacy*, 2024.

[4] L. **Izhikevich**, M. Tran†, K. Izhikevich†, G. Akiwate, and Z. Durumeric, "Democratizing LEO Satellite Network Measurement", in *ACM SIGMETRICS/IFIP Performance*, 2024.

[5] L. **Izhikevich**, M. Tran†, M. Kallitsis, A. Fass, and Z. Durumeric, "Cloud Watching: Understanding Attacks Against Cloud-Hosted Services", in *Proceedings of the 23rd ACM Internet Measurement Conference*, 2023.

[6] L. **Izhikevich**, G. Akiwate, B. Berger†, S. Drakontaidis†, A. Ascheman†, P. Pearce, D. Adrian, and Z. Durumeric, "ZDNS: A Fast DNS Toolkit for Internet Measurement", in *Proceedings of the 22nd ACM Internet Measurement Conference*, ⋆**Community Contribution Award**⋆, 2022.

[7] L. **Izhikevich**, R. Teixeira, and Z. Durumeric, "Predicting IPv4 Services Across All Ports", in *Proceedings of the ACM SIGCOMM Conference*, 2022.

[8] M. Ziv†, L. **Izhikevich**, K. Ruth, K. Izhikevich†, and Z. Durumeric, "ASdb: A System for Classifying Owners of Autonomous Systems", in *Proceedings of the 21st ACM Internet Measurement Conference*, 2021.

[9] J. Cable*†, D. Gregory*†, L. **Izhikevich***, and Z. Durumeric, "Stratosphere: Finding Vulnerable Cloud Storage Buckets", in *Proceedings of the 24th International Symposium on Research in Attacks, Intrusions and Defenses*, 2021.

[10] L. **Izhikevich**, R. Teixeira, and Z. Durumeric, "LZR: Identifying Unexpected Internet Services", in *30th USENIX Security Symposium*, 2021.

[11] G. Wan, L. **Izhikevich**, D. Adrian, K. Yoshioka, R. Holz, C. Rossow, and Z. Durumeric, "On the Origin of Scanning: The Impact of Location on Internet-Wide Scans", in *ACM Internet Measurement Conference*, 2020.

[12] L. Ao, L. **Izhikevich**, G. M. Voelker, and G. Porter, "Sprocket: A Serverless Video Processing Framework", in *Proceedings of the Ninth ACM Symposium on Cloud Computing*, 2018.

[13] L. **Izhikevich**, E. Peterson, and B. Voytek, "Neural oscillatory power is not Gaussian distributed across time", in *Program No. 271.03. 2016 Neuroscience Meeting Planner*, 2016.

Books

[14] N. Moshiri and L. **Izhikevich**, *Design and Analysis of Data Structures*. 2016, ISBN: 978-1981017232.

Pre-Prints

[15] L. **Izhikevich**, R. Gao, E. Peterson, and B. Voytek, "Measuring the average power of neural oscillations", *bioRxiv*, 2018. eprint: https://www.biorxiv.org/content/early/2018/10/13/441626.full.pdf.

Thesis

[16] L. **Izhikevich**, "Building and Breaking Burst-Parallel Systems", M.S. thesis, University of California, San Diego, 2018.

[17] L. **Izhikevich**, "A Comprehensive and Real-Time View of the Internet Service Ecosystem", Ph.D. dissertation, Stanford University, 2024.

Professional Service

Technical Program Committees

- Internet Measurement Conference 2023–Current
- SIGCOMM Next-Generation Network Observability Workshop 2025
- IEEE Security and Privacy 2023
- Symposium on Research in Attacks, Intrusions, and Defenses 2022–2023
- The Passive and Active Measurement Conference 2022
- IEEE Security and Privacy (External Reviewer) 2022
- USENIX Security (External Reviewer) 2019–2022
- Internet Measurement Conference (External Reviewer) 2019–2021

Department and University Service

- Founder and Organizer of the Cross-Department Security Seminar, UCLA 2024–Current
- Computer Engineering Faculty Search Committee – Chalk Talk Coordinator, UCLA 2025–Current
- Data Science Faculty Search Committee, Stanford University 2022–2023
- Ethics & Society Review of HAI Seed Grants Committee, Stanford University 2022
- Chair of Ph.D. Applicant Support Program, Stanford University 2021–2023
- Ph.D. Admissions Committee, Computer Science, Stanford University 2019–2022

External Service

- Mentor for Pulse Research Fellows, Internet Society 2025

Teaching

- **Instructor** at UCLA Spring 2025
  ECE239AS: Topics in Computer Networking Measurement and Security, lizizhikevich.github.io/ECE239AS-NetSec/
- **Co-Creator of Course/Co-Lecturer** at Stanford University Fall 2021
  CS249i: The Modern Internet, /cs249i.stanford.edu/

Students

(only those who published a peer-reviewed article with me)

- Manda Tran (M.S., Ph.D.), Katherine Izhikevich (B.S/M.S/Ph.D.) Current
- Briana Berger (B.S/M.S.), Spencer Drakontaidis (B.S.), Anna Ascheman (B.S) 2021–2022
- Jack Cable (B.S.), Drew Gregory (B.S.), Maya Ziv (M.S.) 2020–2021

Speaking

- Global Visibility into the Internet's Security and Performance
  Invited at UCLA Engineering Alumni Board Meeting May'25
- A Global Perspective on the Past, Present, and Future of Low Earth Orbit Satellite Networks
  Invited at Aerospace Corporation May'25; Invited at Stanford University March'25
- How to Succeed at Early Career Research
  Invited Panelist at the Internet Measurement Conference October'24; Invited Panelist on the Networking Channel March '25
- A Global Perspective on the Past, Present, and Future of Video Streaming over Starlink
  Invited at Netflix May'24; ACM SIGMETRICS June '25;
- Democratizing LEO Satellite Network Measurement
  Invited at Netflix June'23; ACM SIGMETRICS June'24
- How to give an interesting talk for a SIGCOMM/NSDI audience
  Invited Panelist on the Networking Channel March '23
- Cloud Watching: Understanding Attacks Against Cloud-Hosted Services
  ACM Internet Measurement Conference October'22
- ZDNS: A Fast DNS Toolkit for Internet Measurement
  ACM Internet Measurement Conference October'22
- Predicting IPv4 Services Across All Ports
  ACM SIGCOMM August'22
- Finding Vulnerable Cloud Storage Buckets
  Symposium on Research in Attacks, Intrusions, and Defenses October'21; Invited for UC San Diego Security Seminar '22
- Identifying Unexpected Internet Services
  USENIX Security '21; Invited for Cornell Tech Security Seminar '21; Invited for Stanford Security Symposium'22
- Sprocket: A Serverless Video Processing Framework
  UC San Diego Systems Seminar '18

References

Zakir Durumeric
Assistant Professor of Computer Science
Stanford University

Geoffrey Voelker
Professor of Computer Science and Engineering
University of California, San Diego

Stefan Savage
Professor of Computer Science and Engineering
University of California, San Diego

Renata Cruz Teixeira
Former Director of Research; Current Senior Research Scientist
Inria, Paris; Netflix