

DR. THOMAS KRENC

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UC San Diego \diamond 9500 Gilman Drive \diamond La Jolla, CA 92093

RESEARCH INTERESTS

Security and scalability of distributed systems, as well as the development of infrastructure and data-driven approaches to model and measure the Internet ecosystem.

EDUCATION

Technische Universität Berlin

PhD, Computer Science *August 2012 - January 2019*

Topic: *“Revisiting the Interplay of Inter-Domain Traffic and Routing Policies”*

Advisor: [Prof. Anja Feldmann, Ph.D.](#)

MSc, Computer Science *July 2012*

Topic: *“Measurement and Characterization of Content Distribution in BitTorrent”*

Advisor: Prof. Anja Feldmann, Ph.D.

BS, Computer Science *February 2010*

Topic: *“Demographic Measurement of Popular BitTorrent Swarms”*

Advisor: Prof. Anja Feldmann, Ph.D.

Albert-Einstein-Gymnasium, Berlin *May 2005*

Degree: Abitur

PROFESSIONAL EXPERIENCE

UC San Diego *December 2021 - Present*

Postdoctoral fellow

Naval Postgraduate School *December 2019 - December 2021*

Postdoctoral fellow

Technische Universität Berlin *February 2019 - May 2019*

Postdoctoral fellow

TEACHING EXPERIENCE

Teaching Assistant / Co-lecturer:

Naval Postgraduate School:

Mobile Device and Wireless Security *Spring 2021*

Applied course on wireless security with a strong emphasis on the labs.

Technische Universität Berlin:

Network Protocols and Architectures *Fall 2012 - 2018*

Lecture on basics of Internet communication across all layers. 100+ students.

Internet Routing Seminar *Fall 2013 - 2018*

Seminar on advanced research in the area of Internet routing.

Internet Measurement Seminar
Seminar on advanced research in the area of Internet measurement.

Spring 2014 - 2015, 2018

RouterLab
Lab course on network communication and configuration using real world routers.

Spring 2014, 2018, 2019

Thesis Supervision:

1. Eric Regnier. “*Autonomous System Choke Points in Country-Level Network Topology*”. MSc, NPS, 2021.
2. Joshua Werner. “*Chasing the Unknown: A Predictive Model to Demystify BGP Community Semantics*”. MSc, NPS, 2020.
3. Joshua Welch. “*Through the Looking Glass: Classifying Anomalous BGP Communities*”. MSc, NPS, 2020.
4. Kamil Balitzki. “*The Earth is not a Sphere: On the Geographic Alignment of Autonomous Systems*”. BSc, TU Berlin, 2019.
5. Lars Prehn. “*Re-evaluating the AS-level Multi-Tier Model*”. MSc, TU Berlin, 2018.
6. Omar Faruque. “*On Inferring Primary AS Paths from BGP Routing Data*”. MSc, TU Berlin, 2018.
7. Md Shihab Karim. “*Measurement and Characterization of Address Block Announcements from Different Vantage Points*”. MSc, TU Berlin, 2017.
8. Johannes Schütze. “*On the Potentials of Extending Conventional Measurement Tools for Network Deployments using ALTO*”. MSc, TU Berlin, 2016.
9. Li Boxuan. “*Measurement and Analysis of the SoShare Hybrid Server-P2P System*”. MSc, TU Berlin, 2016.
10. Shen Jinji. “*Measuring the Indirect Prefix Delegation using Public Routing Information*”. MSc, TU Berlin, 2016.

PUBLICATIONS

1. Ben Du, Gautam Akiwate, Thomas Krenc, Cecilia Testart, Alexander Marder, Bradley Huffaker, Alex C. Snoeren, and KC Claffy. IRR Hygiene in the RPKI Era. In *Proceedings of the Passive and Active Measurements (PAM) Conference*, March 2022.
2. Thomas Krenc, Robert Beverly, and Georgios Smaragdakis. AS-level BGP Community Usage Classification. In *Proceedings of the ACM SIGCOMM Internet Measurement Conference (IMC)*, November 2021.
3. Thomas Krenc, Robert Beverly, and Georgios Smaragdakis. Keep your Communities Clean: Exploring the Routing Message Impact of BGP Communities. In *Proceedings of the ACM Conference on emerging Networking Experiments and Technologies (CoNEXT)*, December 2020.
4. Thomas Krenc and Anja Feldmann. BGP Prefix Delegations: A Deep Dive. In *Proceedings of the ACM SIGCOMM Internet Measurement Conference (IMC)*, November 2016.
5. Thomas Krenc, Oliver Hohlfeld and Anja Feldmann. An Internet Census Taken by an Illegal Botnet: A Qualitative Assessment of Published Measurements. *ACM SIGCOMM Computer Communication Review (CCR)*, July 2014.
6. Nikolaos Chatzis, Georgios Smaragdakis, Jan Boettger, Thomas Krenc and Anja Feldmann. On the Benefits of Using a Large IXP As an Internet Vantage Point. In *Proceedings of the ACM SIGCOMM Internet Measurement Conference (IMC)*, October 2013.

AWARDS

NRC Research Associateship Award

December 2019