

**Thomas Koch**  
tak2154@columbia.edu

## EDUCATION:

**Columbia University** New York, NY, PhD candidate in Electrical Engineering, Expected May 2024

**The Cooper Union for the Advancement of Science and Art** New York, NY, Master of Engineering, Electrical Engineering, May 2019

**The Cooper Union for the Advancement of Science and Art** New York, NY, Bachelor of Engineering (summa cum laude) with Math Minor, Electrical Engineering, May 2018

## PUBLICATIONS:

*PAINTER: Ingress Traffic Engineering and Routing for Enterprise Cloud Networks.* **Tom Koch**; Shuyue Yu; Sharad Agarwal; Ryan Beckett; Ethan Katz-Bassett.

To appear at SIGCOMM 2023.

*Anycast in Context: A Tale of Two Systems.* **Tom Koch**; Ke Li; Calvin Ardi; Matt Calder; John Heidemann; Ethan Katz-Bassett.

Proceedings of the ACM SIGCOMM Conference, 2021.

*Towards a Traffic Map of the Internet.* **Tom Koch**; Weifan Jiang; Tao Luo; Petros Gigis; Kevin Vermeulen; Emile Aben; Matt Calder; Ethan Katz-Bassett; Lefteris Manassakis; Georgios Smaragdakis; Narseo Vallina-Rodriguez.

Proceedings of the ACM Workshop on Hot Topics in Networks (HOTNETS), 2021.

*Towards Identifying Networks with Internet Clients using Public Data.* Weifan Jian; Tao Luo; **Tom Koch**; Ethan Katz-Bassett; Matt Calder.

Proceedings of the ACM Internet Measurement Conference (IMC), 2021.

*Measuring the Network Performance of Google Cloud Platform.* Ricky Mok; Hongyu Zou; Rui Yang; **Tom Koch**; Ethan Katz-Bassett.

Proceedings of the ACM Internet Measurement Conference (IMC), 2021.

*Reduce, Reuse, Recycle: Repurposing Existing Measurements to Identify Stale Traceroutes*

Vasileios Giotsas; **Tom Koch**; Elverton Fazzion and Italo Cunha; Matt Calder; Harsha V. Madhyastha; Ethan Katz-Bassett.

Proceedings of the ACM Internet Measurement Conference (IMC), 2020.

## TEACHING EXPERIENCE

*Adjunct Instructor*, Columbia University, NY

*Fall 2022*

- Taught course in Computer Networks to 80 undergraduate and graduate students. Topics include the layered model of the Internet, networked applications, and the protocols that enable them.

*Adjunct Instructor*, The Cooper Union, NY

*Fall 2019*

- Taught an undergraduate course in Probability Theory to 25 students. Topics included: Enumeration, Baye's Theorem, Discrete and Continuous Random Variables, Transformations of Random Variables, Moment Generating Functions, The Central Limit Theorem.

*Teaching Assistant*, Columbia University, NY

*Fall 2020*

- Directed a course project, managing grading, rubrics, student questions, and student communications.  
- Held office hours where students asked questions about assignments and concepts.

## WORK EXPERIENCE

*Research Intern*, Azure for Operators, WA

*Spring 2021*

- Led a research project which investigated optimization of paths from users to Microsoft's global CDN.

***Technical Research Intern/Subcontractor***, BAE Systems, Burlington MA

*2017-2019*

- Developed algorithms which used machine learning to replace wireless DSP components. Demonstrated efficacy of algorithms in simulation and real systems.
- Researched and developed methods of applying reinforcement learning to dynamic spectrum scanning.

### **PROFESSIONAL SERVICE**

***IMC 2022 Columbia Shadow PC Chair***

*Summer 2022*

- Coordinated and led discussions among students participating in a shadow PC at Columbia University.
- Organized and disseminated shadow PC decisions and feedback to IMC submission authors.

### **HONORS AND AWARDS**

- Full Tuition Scholarship 2018
- Harry W. Reddick Medal for excellence in Mathematics 2018
- Tau Beta Pi Scholar 2017
- Half Tuition Scholarship 2014-2018