

ESTEBAN CARISIMO

EDUCATION

Doctor of Engineering, Universidad de Buenos Aires *April 2015 - April 2020*
Dissertation: *Internet tomography: Traffic measurement and its relationship with topology*
Summa Cumme Laude
Advisor: J.I. Alvarez-Hamelin (UBA); Co-Advisor: Amogh Dhamdhere (UC San Diego)
Engineering Degree, Universidad de Buenos Aires *March 2009 - December 2014*
Engineering Degree in Electronics. GPA: 3.60 (8.15/10)
Diploma de Honor (*Honor for outstanding GPA*)
Dissertation: *Network tomography: Measurements on an Internet Exchange Point*
Advisor: J.I. Alvarez-Hamelin

PROFESSIONAL EXPERIENCE

Postdoctoral fellow, Northwestern University *April 2021 - Present*
Department of Computer Science
Research topics: submarine cable criticality and Internet concentration. Mentor: Fabian Bustamante

Adjunct Professor, Universidad de Buenos Aires *August 2019 - April 2021*
Department of Computer Science at the School of Engineering (Facultad de Ingeniería)
Tenure-track equivalent

Head of Teaching Assistants, Universidad de Buenos Aires *March 2017 - July 2019*
Department of Computer Science at the School of Engineering (Facultad de Ingeniería)

PhD fellow, CONICET *April 2015 - April 2020*
Research topics: Internet measurements and topology. Mentor: J.I. Alvarez-Hamelin

- Mathematical modelization of Internet latency
- Graph-theoretical analysis to detect emerging Content Providers
- Characterization of Latin American IXPs

Visiting Graduate Student, SDSC, UC San Diego *October 2017 - April 2018*
Research topic: Automatic detection of persistent congestion. Mentor: Amogh Dhamdhere

AWARDS

1. **Best Dataset Award.** *Quantifying Nations Exposure to Traffic Observation and Selective Tampering.* PAM 2022.

PUBLICATIONS

1. **Carisimo, E.**, Wang, C. J., Weaver, M., Bustamante, F.E., Barford, P. 2024. A hop away from everywhere: A view of the intercontinental long-haul infrastructure. In *ACM SIGMETRICS*
2. Bischof, Z., Pitcher K., **Carisimo, E.**, Meng, A., Nunes, R., Padmanabhan, R., Roberts, M.E., Snoeren, A.C., Dainotti, A. 2023. Destination Unreachable: Characterizing Internet Outages and Shutdowns. In *ACM SIGCOMM*
3. Arturi, A., **Carisimo, E.**, Bustamante, F. E. 2023. as2org+ : Enriching AS-to-Organization Mappings with PeeringDB. In *Passive and Active Measurement Conference (PAM)*.
4. **Carisimo, E.**, Mok, R.K.P., Clark, D.D. and Claffy, kc. 2022. Jitterbug: A new framework for jitter-based congestion inference. In *Passive and Active Measurement Conference (PAM)*.

5. Gamero-Garrido, A, **Carisimo, E.**, Snoeren, A.C. and Dainotti, A. 2022. Quantifying Nations' Exposure to Traffic Observation and Selective Tampering. In *Passive and Active Measurement Conference (PAM)*.
6. **Carisimo, E.**, Gamero-Garrido, A, Snoeren, A.C. and Dainotti, A. 2021. Identifying ASes of State-Owned Internet Operators. In *ACM SIGCOMM Internet Measurement Conference (IMC)*.
7. **Carisimo, E.**, Del Fiore, J.M., Dujovne, D. , Pelsser, C. and Alvarez-Hamelin, J. I. 2020. A first look at Latin American IXPs. In *ACM SIGCOMM Computer Communication Review (CCR)*.
8. **Carisimo, E.**, Selmo, C., Alvarez-Hamelin, J. I., and Dhamdhere, A. 2019. Studying the evolution of content providers in IPv4 and IPv6 internet cores. In *Computer Communications*, 145, 54-65. Elsevier.
9. **Carisimo, E.**, Selmo, C., Alvarez-Hamelin, J. I., and Dhamdhere, A. 2018. Studying the evolution of content providers in the internet core. In *Network Traffic Measurement and Analysis Conference (TMA)* (pp. 1-8). IEEE.
10. Berenguer, S. S., **Carisimo, E.**, Alvarez-Hamelin, J. I., Pintor, F. V. (2016, August). Hidden internet topologies info: Truth or myth?. In *Proceedings of the 2016 workshop on Fostering Latin-American Research in Data Communication Networks (LANCOMM)* (pp. 4-6).

RESEARCH PROJECTS

Mapping the first Bolivian IXP

January 2014 - June 2015

Research on Bolivian network reshape after the release of the first national IXP in 2013. Funded by Internet Society (ISOC) and supported by ATT BO (Bolivian regulatory authority).

Mapping the first Paraguayan IXP

July 2015 - December 2016

Research on Paraguayan network reshape after the release of the first national IXP in 2016. Funded by Internet Society (ISOC) and supported by PY ccTLD.

ATTENDANCE TO CONFERENCES

1. CMD-IT/ACM TAPIA Conference 2023, Dallas, TX, USA.
2. ACM SIGCOMM 2023, New York, NY, USA.
3. Passive and Active Measurement Conference (PAM) 2023, Virtual conference.
4. Passive and Active Measurement Conference (PAM) 2022, Virtual conference.
5. ACM SIGCOMM Internet Measurement Conference (IMC) 2021, Virtual conference.
6. ACM SIGCOMM Internet Measurement Conference (IMC) 2020, Virtual conference.
7. IFIP Network Traffic Measurement Analysis Conference (TMA) 2020, Virtual conference.
8. IFIP Network Traffic Measurement Analysis Conference (TMA) 2019, Paris, France.
9. IFIP Network Traffic Measurement Analysis Conference (TMA) 2018, Vienna, Austria.
10. ACM SIGCOMM 2017, Los Angeles, CA, USA.
11. IFIP Network Traffic Measurement Analysis Conference (TMA) 2017, Dublin, Ireland.
12. ACM SIGCOMM Internet Measurement Conference (IMC) 2016, Los Angeles, CA, USA.
13. ACM SIGCOMM 2016, Florianopolis, SC, Brazil.
14. IFIP Network Traffic Measurement Analysis Workshop (TMA) 2016, Louvain-le-neuve, Belgium.

RELEASE SOFTWARE AND DATASETS

State-Owned Autonomous Systems dataset

<https://www.github.com/estcarisimo/state-owned-ases>

Jitterbug congestion inference tool

<https://www.github.com/estcarisimo/jitterbug>

as2org+

<https://github.com/NU-AquaLab/as2orgplus>

TALKS

1. Passive and Active Measurement conference 2023 (Mar/2023): *as2org+ : Enriching AS-to-Organization Mappings with PeeringDB*
2. Passive and Active Measurement conference 2022 (Mar/2022): *Jitterbug: A new framework for jitter-based congestion inference*
3. ACM SIGCOMM IMC conference 2021 (Nov/2021): *Identifying ASes of State-Owned Internet Operators*
4. TMA 2018 (Jun/2018) & LACNOG 2018 (Sep/2018): *Studying the evolution of content providers in the Internet core*
5. LACNOG 2017 (Sep/2018): *What is the interconnection in the region like? Measurements on Bolivian and Paraguayan IXPs*
6. IGF Workshop at UBA School of Law (May/2017): *Behind the network matrix: submarine cables, satellites and protocols*
7. ArNOG 7 (Mar/2017): *Reasons to adopt SDNs*
8. ArNOG 6 (Nov/2017): *Measurement-probe deployment at ISPs*

TEACHING EXPERIENCE

Instructor, Northwestern University Course: CS340-Introduction to Computer Networking. Quarters: Fall 2023, Fall 2022, Winter 2022	<i>January 2022 - Present</i>
Instructor, Universidad de Buenos Aires Course: 75.43/75.33/95.40-Introduction to Distributed Systems. Semesters: S2-2020, S1-2020, S2-2019	<i>August 2019 - April 2021</i>
Head of Teaching Assistants, Universidad de Buenos Aires Course: 75.43/75.33/95.40-Introduction to Distributed Systems. Semesters: S1-2019, S2-2018, S1-2018, S1-2017	<i>March 2017 - July 2019</i>

MENTORSHIP: MASTER STUDENT THESIS ADVISOR

Santiago Klein, Universidad de Buenos Aires Dissertation: <i>SPLASH: A Measuring platform for detecting submarine cable failures</i>	<i>Jan 2023 - Oct 2023</i>
Nicolas Aguerre, Universidad de Buenos Aires Dissertation: <i>SPLASH: A Measuring platform for detecting submarine cable failures</i>	<i>Jan 2023 - Oct 2023</i>
Raghul Ravi, Northwestern University Master project: <i>Repsy: Replication Made Easy</i>	<i>Sep 2022 - Jun 2023</i>
Aman Khalid, Northwestern University Master project: <i>Undersea Cable Observatory</i>	<i>Jun 2022 - Dec 2022</i>
Cecilia Hortas, Universidad de Buenos Aires Dissertation: <i>Private DoH: Leveraging DoH public resolvers to enhance privacy in mobile environments</i>	<i>Sept 2021 - Dec 2022</i>
Camila Bojman, Universidad de Buenos Aires Dissertation: <i>Private DoH: Leveraging DoH public resolvers to enhance privacy in mobile environments</i>	<i>Sept 2021 - Dec 2022</i>
Manuel Ruiz Echazu, Universidad de Buenos Aires Dissertation: <i>CDN Scout: A crowdsourced platform to identify CDN centralization</i>	<i>Sept 2021 - June 2022</i>
Tomas Botalla, Universidad de Buenos Aires Dissertation: <i>CDN Scout: A crowdsourced platform to identify CDN centralization</i>	<i>Sept 2021 - June 2022</i>
Augusto Arturi, Universidad de Buenos Aires Dissertation: <i>Using PeeringDB to augment AS sibling inference</i>	<i>Sept 2020 - Aug 2021</i>

Rodrigo Zápico, Universidad de Buenos Aires

Sept 2020 - June 2021

Dissertation: *svrmap: Identifying content delivery strategies for mobile apps*

Martín Errázquin, Universidad de Buenos Aires

Sept 2020 - June 2021

Dissertation: *svrmap: Identifying content delivery strategies for mobile apps*

Sofía Morseletto, Universidad de Buenos Aires

January 2019 - April 2020

Joint project with University of Luxembourg

Dissertation: *Building an experimental evaluation of an in-car Automotive Ethernet Testbed System*

DEPARTMENT SERVICE

PhD admission committee, Northwestern University

January 2022 - Present

Representative of the System and Networking area.

Department of Computer Science.

CSE Curriculum Committee, Universidad de Buenos Aires

August 2019 - April 2021

Representative of the Professors in the Computer Science and Engineering program.

SERVICE

- **General Chair:** PAM 2024
- **Program Committee**
 1. **Internet Measurement Conference (IMC)**, TPC 2023, Poster session, 2022
 2. **Passive and Active Measurement (PAM)**, TPC, 2022, 2023

COMMUNITY SERVICE

Latin CS, Northwestern University

January 2023 - March 2023

Faculty Advisor. Department of Computer Science.

SKILLS

Technical skills

- **Programming languages:** Python, Bash, C, Octave, Matlab, R
- **Databases:** SQLite, MySQL, PostgreSQL (SQL); mongoDB, influxDB (NoSQL)
- **Data science libraries:** numpy, scipy, pandas, matplotlib, scikit-learn, keras
- **Control-version tools:** git + GitHub, svn
- **Software platforms:** Jupyter, anaconda

Languages

1. Spanish (Native)
2. English (Fluent)
3. Italian (Intermediate)