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. Keremoglu E., Weidmann N. B., Gamero-Garrido, A., **Carisimo, E.**, Snoeren, A.C., Dainotti, A. 2024. Network Topology Facilitates Internet Traffic Control in Autocracies. In *PNAS Nexus*.

2. **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*

3. 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*

4. Arturi, A., **Carisimo, E.**, Bustamante, F. E. 2023. as2org+ : Enriching AS-to-Organization Mappings with PeeringDB. In *Passive and Active Measurement Conference (PAM)*.

5. **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)*.

6. 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)*.

7. **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)*.

8. **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)*.

9. **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.

10. **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.

11. 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).

PRESS

1. A hop away from everywhere long-haul links in todays Internet. 2024. APNIC Blog.

2. Identifying Autonomous Systems of state-owned Internet operators. 2022. APNIC Blog

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.

PARTICIPATION IN WORKSHOPS

1. NSF Workshop: Towards Re-architecting Todays Internet for Survivability. Nov/2023, Evanston, IL, USA.
2. NSF Workshop: Overcoming Measurement Barriers to Internet Research (WOMBIR 2021). Jan/2021. Virtual.

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. *Unexpected Peering Connections to the Cloud: Going the distance when you dont have to*
   (a) University of Wisconsin-Madison 2023 (Oct/2023)
   (b) AIMS-IYP Workshop 2023 at UC San Diego (Nov/2023)
2. *as2org+ : Enriching AS-to-Organization Mappings with PeeringDB.* Passive and Active Measurement conference 2023 (Mar/2023).
3. *Jitterbug: A new framework for jitter-based congestion inference.* Passive and Active Measurement conference 2022 (Mar/2022).
4. *Identifying ASes of State-Owned Internet Operators.* ACM SIGCOMM IMC conference 2021 (Nov/2021).
5. *Studying the evolution of content providers in the Internet core*
   (a) TMA 2018 (Jun/2018)
   (b) LACNOG 2018 (Sep/2018)
6. *What is the interconnection in the region like? Measurements on Bolivian and Paraguayan IXPs.* LACNOG 2017 (Sep/2018).
7. *Behind the network matrix: submarine cables, satellites and protocols.* Internet Governance Forum (IGF) Workshop at UBA School of Law (May/2017).
8. *Reasons to adopt SDNs.* ArNOG 7 (Mar/2017).
9. *Measurement-probe deployment at ISPs.* ArNOG 6 (Nov/2017).

TEACHING EXPERIENCE

Instructor, Northwestern University   *January 2022 - Present*
Course: CS340-Introduction to Computer Networking.
Quarters: Fall 2023, Fall 2022, Winter 2022

Instructor, Universidad de Buenos Aires   *August 2019 - April 2021*
Course: 75.43/75.33/95.40-Introduction to Distributed Systems.
Semesters: S2-2020, S1-2020, S2-2019

Head of Teaching Assistants, Universidad de Buenos Aires   *March 2017 - July 2019*
Course: 75.43/75.33/95.40-Introduction to Distributed Systems.
Semesters: S1-2019, S2-2018, S1-2018, S1-2017

MENTORSHIP: MASTER STUDENT THESIS ADVISOR

Santiago Klein, Universidad de Buenos Aires *Jan 2023 - Oct 2023*
Dissertation: *SPLASH: A Measuring platftorm for detecting submarine cable failures*

Nicolas Aguerre, Universidad de Buenos Aires *Jan 2023 - Oct 2023*
Dissertation: *SPLASH: A Measuring platftorm for detecting submarine cable failures*

Raghul Ravi, Northwestern University *Sep 2022 - Jun 2023*
Master project: *Repsy: Replication Made Easy*

Aman Khalid, Northwestern University *Jun 2022 - Dec 2022*
Master project: *Undersea Cable Observatory*

Cecilia Hortas, Universidad de Buenos Aires *Sept 2021 - Dec 2022*
Dissertation: *Private DoH: Leveraging DoH public resolvers to enhance privacy in mobile environments*

Camila Bojman, Universidad de Buenos Aires *Sept 2021 - Dec 2022*
Dissertation: *Private DoH: Leveraging DoH public resolvers to enhance privacy in mobile environments*

Manuel Ruiz Echazu, Universidad de Buenos Aires *Sept 2021 - June 2022*
Dissertation: *CDN Scout: A crowdsourced platform to identify CDN centralization*

Tomas Botalla, Universidad de Buenos Aires *Sept 2021 - June 2022*
Dissertation: *CDN Scout: A crowdsourced platform to identify CDN centralization*

Augusto Arturi, Universidad de Buenos Aires *Sept 2020 - Aug 2021*
Dissertation: *Using PeeringDB to augment AS sibling inferrence*

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: 2024, 2023,
     - Poster session: 2022
  2. **Passive and Active Measurement (PAM)**, TPC: 2023, 2022,
  3. **Network Traffic Measurement and Analysis Conference (TMA)**, TPC: 2024

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)