

# 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 Dhamdhare (UC San Diego)

**Combined BS & MS, Universidad de Buenos Aires** *March 2009 - December 2014*

Combined Bachelor and Master of Engineering, 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 focused on submarine cable networks and Internet concentration. Mentor: Fabian Bustamante

**Adjunct Professor, Universidad de Buenos Aires** *August 2019 - April 2021*

Department of Computer Science of 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 of the School of Engineering (Facultad de Ingeniería)

**PhD fellow, CONICET** *April 2015 - April 2020*

Research activities related to Internet measurements and topology. Mentor: J.I. Alvarez-Hamelin

- Mathematical modelization of Internet latency
- Graph-theoretical analysis of Content Providers ascension in Internet's topology
- Characterization of IXPs in Latin America

**Visiting Graduate Student, SDSC, UC San Diego** *October 2017 - April 2018*

Research activities focus on detecting persistent interdomain congestion. Mentor: Amogh Dhamdhare

## AWARDS

---

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

## PUBLICATIONS

---

1. 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*
2. Arturi, A., **Carisimo, E.**, Bustamante, F. E. 2023. as2org+ : Enriching AS-to-Organization Mappings with PeeringDB. In *Passive and Active Measurement Conference (PAM)*.
3. **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)*.
4. 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)*.

5. **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)*.
6. **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)*.
7. **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.
8. **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.
9. 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/2022): *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

---

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

## MENTORSHIP: MASTER STUDENT THESIS ADVISOR

---

<b>Raghul Ravi, Northwestern University</b> Master project: <i>Repsy: Replication Made Easy</i>	<i>Sep 2022 - Jun 2023</i>
<b>Aman Khalid, Northwestern University</b> Master project: <i>Undersea Cable Observatory</i>	<i>Jun 2022 - Dec 2022</i>
<b>Cecilia Hortas, Universidad de Buenos Aires</b> Dissertation: <i>Private DoH: Leveraging DoH public resolvers to enhance privacy in mobile environments</i>	<i>Sept 2021 - Dec 2022</i>
<b>Camila Bojman, Universidad de Buenos Aires</b> Dissertation: <i>Private DoH: Leveraging DoH public resolvers to enhance privacy in mobile environments</i>	<i>Sept 2021 - Dec 2022</i>
<b>Manuel Ruiz Echazu, Universidad de Buenos Aires</b> Dissertation: <i>CDN Scout: A crowdsourced platform to identify CDN centralization</i>	<i>Sept 2021 - June 2022</i>
<b>Tomas Botalla, Universidad de Buenos Aires</b> Dissertation: <i>CDN Scout: A crowdsourced platform to identify CDN centralization</i>	<i>Sept 2021 - June 2022</i>
<b>Augusto Arturi, Universidad de Buenos Aires</b> Dissertation: <i>Using PeeringDB to augment AS sibling inference</i>	<i>Sept 2020 - Aug 2021</i>
<b>Rodrigo Zápico, Universidad de Buenos Aires</b> Dissertation: <i>svrmap: Identifying content delivery strategies for mobile apps</i>	<i>Sept 2020 - June 2021</i>
<b>Martín Errázquin, Universidad de Buenos Aires</b> Dissertation: <i>svrmap: Identifying content delivery strategies for mobile apps</i>	<i>Sept 2020 - June 2021</i>
<b>Sofía Morseletto, Universidad de Buenos Aires</b> Joint project with University of Luxembourg Dissertation: <i>Building an experimental evaluation of an in-car Automotive Ethernet Testbed System</i>	<i>January 2019 - April 2020</i>

## 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.

## 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)