

# Esteban Carisimo

✉ [estcarisimo@gmail.com](mailto:estcarisimo@gmail.com) | 🏠 [estcarisimo.github.io](https://github.com/estcarisimo) | 📱 [estcarisimo](#)

## Personal Profile

My research interests broadly focus on Internet topology, particularly on performance, resilience, and the role of governments in shaping the Internet. I am particularly interested in studying key Internet infrastructures such as Submarine Cable Networks (SCNs), Content Delivery Networks (CDNs), Internet Exchange Points (IXPs), and Public DNS resolvers. My work also explores network congestion and the strategies governments employ to deliver content and provide Internet access and transit.

## Education

### Universidad de Buenos Aires

[Buenos Aires, Argentina](#)

Doctor of Engineering

*Apr 2015 - Apr 2020*

- Advisor: J.I. Alvarez-Hamelin (UBA); Co-Advisor: Amogh Dhamdhere (UC San Diego)
- Dissertation: *Internet tomography: Traffic measurement and its relationship with topology*
- Summa Cum Laude

### Universidad de Buenos Aires

[Buenos Aires, Argentina](#)

Engineering Degree in Electronics

*Mar 2009 - Dec 2014*

- GPA: 3.60 (8.15/10)
- Diploma de Honor (*Honor for outstanding GPA*)
- Dissertation: *Network tomography: Measurements on an Internet Exchange Point*

## Appointments

### Department of Computer Science, Northwestern University

[Evanston, IL, USA](#)

Postdoctoral Fellow

*Apr 2021 - Present*

- Mentor: Fabian E. Bustamante

### Department of Computer Science, School of Engineering, Universidad de Buenos Aires

[Buenos Aires, Argentina](#)

Adjunct Professor

*Aug 2019 - Apr 2021*

- Tenured Teaching Appointment
- Instructor of 75.43 - Introduction to Distributed Systems

### Department of Computer Science, School of Engineering, Universidad de Buenos Aires

[Buenos Aires, Argentina](#)

Head of Teaching Assistants

*Mar 2017 - Jul 2019*

- 75.43 - Introduction to Distributed Systems

### CONICET (Argentina's National Scientific and Technical Research Council)

[Buenos Aires, Argentina](#)

Doctoral Fellow

*Apr 2015 - Apr 2020*

- Mentor: J.I. Alvarez-Hamelin

### CAIDA, San Diego Supercomputer Center, UC San Diego

[La Jolla, CA, USA](#)

Visiting Graduate Student

*Oct 2017 - Apr 2018*

- Researched automatic detection of persistent congestion in the Internet.
- Mentor: Amogh Dhamdhere

## Awards

2022 **Best Dataset Award**, *Quantifying Nations' Exposure to Traffic Observation and Selective Tampering*. Passive and Active Measurement (PAM) Conference

[Virtual Event](#)

## Publications

† *indicates mentee*

### JOURNAL ARTICLES

- [J3] Network topology facilitates internet traffic control in autocracies.  
Eda Keremoğlu, Nils B Weidmann, Alexander Gamero-Garrido, **Esteban Carisimo**, Alberto Dainotti, Alex C Snoeren  
*PNAS Nexus*. pgae069. 2024
- [J2] A First Look at the Latin American IXPs.  
**Esteban Carisimo**, Julián M. Del Fiore, Diego Dujovne, Cristel Pelsser, J. Ignacio Alvarez-Hamelin

- [J1] Studying the evolution of content providers in IPv4 and IPv6 internet cores.  
**Esteban Carisimo**, Carlos Selmo, J. Ignacio Alvarez-Hamelin, Amogh Dhamdhere  
*Computer Communications*, pp. 54–65. 2019

## CONFERENCE PROCEEDINGS

- [C11] Ten years of the Venezuelan crisis - An Internet perspective  
**Esteban Carisimo**, Rashna Kumar, Caleb J. Wang, Santiago Klein, Fabián E. Bustamante  
*ACM SIGCOMM*, 2024, Acceptance rate 16.94% (62/366)
- [C10] DarkSim: A similarity-based time-series analytic framework for darknet traffic  
Max Gao<sup>†</sup>, Eric Li, Shubham Kulkarniand, Ricky P. K. Mok, **Esteban Carisimo**, k Claffy  
*ACM IMC*, 2024, Acceptance rate 21.34% (54/253)
- [C9] Of Choices and Control - A Comparative Analysis of Government Hosting  
Rashna Kumar<sup>†</sup>, **Esteban Carisimo**, Lukas De Angelis Rivas, Mauricio Buzzzone, Fabián E. Bustamante, Ihsan Ayyub Qazi, Mariano G. Beiró  
*ACM IMC*, 2024, Acceptance rate 21.34% (54/253)
- [C8] as2org+: Enriching AS-to-Organization Mappings with PeeringDB.  
Augusto Arturi<sup>†</sup>, **Esteban Carisimo**, Fabián E. Bustamante  
*Passive and Active Measurement*, 2023, Acceptance rate 33.75% (27/80)
- [C7] Destination Unreachable: Characterizing Internet Outages and Shutdowns.  
Zachary Bischof, Kennedy Pitcher, **Esteban Carisimo**, Amanda Meng, Rafaek Nunes, Ramakrishna Padmanabhan, Margaret E. Roberts, Alex C. Snoeren, Alberto Dainotti  
*ACM SIGCOMM*, 2023, Acceptance rate 22.46% (73/325)
- [C6] A hop away from everywhere: A view of the intercontinental long-haul infrastructure.  
**Esteban Carisimo**, Caleb J. Wang, Mia Weaver, Paul Barford, Fabián E. Bustamante  
*Proc. ACM Meas. Anal. Comput. Syst.* 2023, Acceptance rate 12.50% (10/80)
- [C5] Jitterbug: A new framework for jitter-based congestion inference.  
**Esteban Carisimo**, Ricky K. P. Mok, David D. Clark, Kc Claffy  
*Passive and Active Measurement*, 2022, Acceptance rate 48.39% (30/62)
- [C4] Quantifying Nations' Exposure to Traffic Observation and Selective Tampering.  
Alexander Gamero-Garrido, **Esteban Carisimo**, Shuai Hao, Bradley Huffaker, Alex C. Snoeren, Alberto Dainotti  
*Passive and Active Measurement*, 2022, Acceptance rate 48.39% (30/62)
- [C3] Identifying ASes of State-Owned Internet Operators.  
**Esteban Carisimo**, Alexander Gamero-Garrido, Alex C. Snoeren, Alberto Dainotti  
*ACM Internet Measurement Conference (IMC)*, 2021, Acceptance rate 27.55% (54/196)
- [C2] Studying the Evolution of Content Providers in the Internet Core.  
**Esteban Carisimo**, Carlos Selmo, J. Ignacio Alvarez-Hamelin, Amogh Dhamdhere  
*Network Traffic Measurement and Analysis Conference (TMA)*, 2018
- [C1] Hidden Internet Topologies Info: Truth or Myth?.  
Sofía Silva Berenguer, **Esteban Carisimo**, J. Ignacio Alvarez-Hamelin, Francisco Valera Pintor  
*Workshop on Fostering Latin-American Research in Data Communication Networks*, 2016

## PEER-REVIEWED EXTENDED ABSTRACTS AND POSTERS

- [P3] A hop away from everywhere: A view of the intercontinental long-haul infrastructure  
**Esteban Carisimo**, Caleb J. Wang, Mia Weaver, Paul Barford, Fabián E. Bustamante  
*Abstracts of ACM SIGMETRICS/IFIP PERFORMANCE*, 2024
- [P2] Beyond Proximity: Exploring Remote Cloud Peering  
**Esteban Carisimo**, Mia Weaver, Paul Barford, Fabián E. Bustamante  
*Proc. of SIGCOMM Posters*, 2024
- [P1] Revealing Hidden Secrets: Decoding DNS PTR records with Large Language Models  
Kedar Thiagarajan<sup>†</sup>, **Esteban Carisimo**, Fabián E. Bustamante  
*Proc. of SIGCOMM Posters*, 2024

## Software, Systems and Datasets

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### SYSTEMS

**Splash** Submarine Cable Failure Detection [splash.aqualab.cs.northwestern.edu](https://github.com/estcarisimo/splash)

### TOOLS

**Jitterbug** Network Congestion Inference tool <https://www.github.com/estcarisimo/jitterbug>  
**as2org+** AS-to-Organizations mapping tool <https://github.com/NU-AquaLab/as2orgplus>

### DATASET

**State-Owned ASes** List of ASes of State-Owned Internet Providers <https://www.github.com/estcarisimo/state-owned-ases>

## Talks

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- [T10] A hop away from everywhere: A view of the intercontinental long-haul infrastructure  
**Esteban Carisimo**  
, 2024
- [T9] A hop away from everywhere: A view of the intercontinental long-haul infrastructure  
**Esteban Carisimo**  
, 2024
- [T8] El Dilema Digital de los Gobiernos: Entre Autonomia y Tercerizacion  
**Esteban Carisimo**  
2024, Universidad de San Andres, San Fernando, Buenos Aires, Argentina
- [T7] as2org+: Enriching AS-to-Organization Mappings with PeeringDB  
**Esteban Carisimo**  
2023, PAM, Virtual Event
- [T6] Unexpected Peering Connections to the Cloud: Going the distance when you don't have to  
**Esteban Carisimo**  
2023, AIMS-IYP UCSD, La Jolla, CA, USA
- [T5] Unexpected Peering Connections to the Cloud: Going the distance when you don't have to  
**Esteban Carisimo**  
2023, University of Wisconsin-Madison, Madison, WI, USA
- [T4] Jitterbug: A new framework for jitter-based congestion inference  
**Esteban Carisimo**  
2022, PAM, Virtual Event
- [T3] Identifying ASes of State-Owned Internet Operators  
**Esteban Carisimo**  
2021, IMC, Virtual Event
- [T2] Studying the Evolution of Content Providers in the Internet Core  
**Esteban Carisimo**  
2018, LACNOG, Rosario, Argentina
- [T1] Studying the Evolution of Content Providers in the Internet Core  
**Esteban Carisimo**  
2018, TMA, Vienna, Austria

## Press and Broader Impact

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- 2024 **ISOC Pulse**, (Invited) A hop away from everywhere long-haul links in today's Internet
- 2024 **APNIC Blog**, (Invited) A hop away from everywhere long-haul links in today's Internet
- 2022 **APNIC Blog**, (Invited) Identifying Autonomous Systems of state-owned Internet operators

## Teaching

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### CS340 - Introduction to Computer Networking

*Northwestern University*

Instructor

*Jan 2022 - Present*

- Terms:
  - Fall 2024 (Enrollment: 80, CTEC: )
  - Fall 2023 (Enrollment: 78, CTEC: 5.04/ 6.00)
  - Fall 2022 (Enrollment: 67, CTEC: 4.83/ 6.00)
  - Winter 2022 (Enrollment: 134, CTEC: 4.20 / 6.00)
- Website: <https://northwestern-cs340.github.io/>

### 75.43 - Introduction to Distributed Systems

*Universidad de Buenos Aires*

Instructor

*Jul 2019 - Apr 2021*

- Semesters: S2-2020, S1-2020, S2-2019
- Equivalent to Northwestern's CS340 - Introduction to Computer Networking

### 75.43 - Introduction to Distributed Systems

*Universidad de Buenos Aires*

Head of Teaching Assistants

*Mar 2017 - Jul 2019*

- Semesters: S1-2019, S2-2018, S1-2018, S1-2017
- Equivalent to Northwestern's CS340 - Introduction to Computer Networking

## Service

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### DEPARTMENT SERVICE

## Latin CS

### Faculty Advisor

- Student organization for self-identified as Latin American/ Latinx / Hispanic.
- Temporary invited to represent the faculty in mentoring the organization.

Northwestern University

Jan 2023 - Jun 2023

## Admission Committee for the PhD in Computer Science

### Committee Member

- Representing the System and Networking area.

Northwestern University

Jan 2022 - Jan 2023

## Curriculum Committee of the CSE Undergraduate Program

### Faculty Representative

- Co-governed board composed of faculty (3), graduate (2), and student (1) members

Universidad de Buenos Aires

Jun 2019 - Apr 2021

## CONFERENCE COMMITTEES AND JOURNAL REVIEWS

### General Chair

- PAM 2024

### Publicity Chair

- ACM IMC 2025

### Program Committee Member

- 2025: ACM IMC, PAM, ACM SIGMETRICS
- 2024: ACM IMC, TMA
- 2023: ACM IMC, PAM
- 2022: PAM, ACM IMC (Only Poster Session)

### External Reviewer

- ACM/IEEE Transaction on Networking (ToN)
- ACM SIGCOMM Computer Communications Review (CCR)

## Mentoring

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### MASTER STUDENTS OR EQUIVALENT

1. **Mauricio Buzzone**. Advisor. Universidad de Buenos Aires. *Oct 2023 - Present*
2. **Lukas De Angelis Riva**. Advisor. Universidad de Buenos Aires. *Oct 2023 - Present*
3. **Santiago Klein**. Advisor. Universidad de Buenos Aires. *Jan 2023 - Sep 2023*
4. **Nicolas Aguerre**. Advisor. Universidad de Buenos Aires. *Jan 2023 - Sep 2023*
5. **Raghul Ravi**. Advisor. Northwestern University. *Sep 2022 - Jun 2023*
6. **Aman Khalid**. Advisor. Northwestern University. *Jun 2022 - Dec 2022*
7. **Cecilia Hortas**. Advisor. Universidad de Buenos Aires. *Sep 2021 - Dec 2022*
8. **Camila Bojman**. Advisor. Universidad de Buenos Aires. *Sep 2021 - Dec 2022*
9. **Manuel Ruiz Echazu**. Advisor. Universidad de Buenos Aires. *Sep 2021 - Aug 2022*
10. **Tomas Botalla**. Advisor. Universidad de Buenos Aires. *Sep 2021 - Aug 2022*
11. **Augusto Arturi**. Advisor. Universidad de Buenos Aires. *Sep 2020 - Aug 2021*
12. **Rodrigo Zapico**. Advisor. Universidad de Buenos Aires. *Sep 2020 - Jun 2021*
13. **Martín Errázquin**. Advisor. Universidad de Buenos Aires. *Sep 2020 - Jun 2021*
14. **Sofía Morseletto**. Advisor. Universidad de Buenos Aires (joint w University of Luxembourg). *Jan 2019 - Apr 2020*

## Languages

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**English** Proficient

**Spanish** Native

**Italian** Fluent

**References available upon request.**