

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 Dhamdhare (UC San Diego)
- Dissertation: *Internet tomography: Traffic measurement and its relationship with topology*
- Summa Cumme 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 Dhamdhare

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] DarkSim: A similarity-based time-series analytic framework for darknet traffic
Max Gao[†], Ricky P. K. Mok, **Esteban Carisimo**, k Claffy, Eric Li, Shubham Kulkarniand
ACM IMC, 2024, Acceptance rate 21.34% (54/253)
- [C10] Of Choices and Control - A Comparative Analysis of Government Hosting
Rashna Kumar[†], **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)
- [C9] 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)
- [C8] 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)
- [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] as2org+: Enriching AS-to-Organization Mappings with PeeringDB.
Augusto Arturi[†], **Esteban Carisimo**, Fabián E. Bustamante
Passive and Active Measurement, 2023, Acceptance rate 33.75% (27/80)
- [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[†], **Esteban Carisimo**, Fabián E. Bustamante
Proc. of SIGCOMM Posters, 2024

Software, Systems and Datasets

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

- [T13] Governmental Roles in the Internet Ecosystem: From Content Provision to Network Shaping

Esteban Carisimo

2024, Northeastern University, Boston, Massachusetts

- [T12] Una decada de crisis en Venezuela: Una mirada desde la infraestructura de Internet

Esteban Carisimo

2024, LACNIC/LACNOG 2024, Asuncion, Paraguay

- [T11] Ten years of the Venezuelan crisis - An Internet perspective

Esteban Carisimo

2024, SIGCOMM 2024, Sydney, NSW, Australia

- [T10] A hop away from everywhere: A view of the intercontinental long-haul infrastructure

Esteban Carisimo

2024, AIMS-IYP UCSD, La Jolla, CA, USA

- [T9] A hop away from everywhere: A view of the intercontinental long-haul infrastructure

Esteban Carisimo

2024, SIGMETRICS, Venice, Italy

- [T8] El Dilema Digital de los Gobiernos: Entre Autonomia y Tercerizacion

Esteban Carisimo

2024, Universidad de San Andres, San Fernando, Buenos Aires, Argentina

- [T7] 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

- [T6] 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

- [T5] as2org+: Enriching AS-to-Organization Mappings with PeeringDB

Esteban Carisimo

2023, PAM, Virtual Event

- [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

- 2024 **ISOC Pulse**, (Blog) The Story of Venezuela's Deteriorating Internet Infrastructure
- 2024 **Lawfare Daily**, (PODCAST) How Internet Infrastructure Affects Digital Repression in Venezuela
- 2024 **ISOC Pulse**, (Blog) A hop away from everywhere long-haul links in today's Internet
- 2024 **APNIC Blog**, (Blog) A hop away from everywhere long-haul links in today's Internet
- 2022 **APNIC Blog**, (Blog) Identifying Autonomous Systems of State-owned Internet operators

Teaching

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

Head of Teaching Assistants

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

Universidad de Buenos Aires

Mar 2017 - Jul 2019

Service

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, ACM CoNEXT, 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

PHD STUDENTS

1. **Rashna Kumar.** Mentor. Northwestern University. *Mar 2021 - Present*
2. **Caleb J. Wang.** Mentor. Northwestern University. *Sep 2023 - Present*
3. **Kedar Thiagarajan.** Mentor. Northwestern University. *Sep 2023 - Present*

MASTER STUDENTS OR EQUIVALENT

1. **Mauricio Buzzzone.** 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

English Proficient
Spanish Native
Italian Fluent

References

Fabián E. Bustamante

- Professor of Computer Science
- Northwestern University
- <fabianb@northwestern.edu>

kc claffy

- Principal Investigator (CAIDA)
- Research Scientist (UC San Diego SDSC)
- Adjunct Professor of Computer Science and Engineering (UC San Diego)
- <kc@caida.org>

Alberto Dainotti

- Associate Professor of Computer Science
- Georgia Tech
- <dainotti@gatech.edu>