Leonardo Torres

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Northeastern University – Boston, MA, USA

Graduate student in Network Science at the Network Science Institute, under advisement of Tina Eliassi-Rad. Broad interests: network science, complexity science, applied mathematics (probability, spectral linear algebra, algebraic topology, differential geometry), data science (graph mining, theoretical foundations, unsupervised machine learning). Specific interests: topological and geometric data analysis of complex networks, design and development of algorithms that exploit mathematical structure, philosophy of network science.

Education

- (In course) Ph.D., Network Science, Northeastern University (Boston, MA, USA), expected 2021.
- B.S., Mathematics, Pontificia Universidad Católica del Perú (Lima, Peru), 2009–2015.
- —, Mathematics, College of The Holy Cross (Worcester, MA), 2013-2014.

Research and Academic Activity

Articles

Leo Torres, P. Suárez Serrato and T. Eliassi-Rad. **Graph Distance from a Topological View of Non-Backtracking Cycles.** Preprint.

Oral Presentations

- **A Bridge Between Homotopy Theory and Network Science.** Leo Torres, P. Suárez Serrato, T. Eliassi-Rad. SIAM Workshop on Network Science 2018 (SIAMNS'18). Portland, Oregon, USA. July 2018.
- **A Study of Cycle Length Spectra**. Leo Torres, P. Suárez Serrato, T. Eliassi-Rad. The 2018 International Conference on Network Science (NetSci'18). Paris, France. June 2018.

Poster Presentations

- **Graph Distance from the Topological Perspective of Nonbacktracking Cycles.** Leo Torres and T. Eliassi-Rad. New England Machine Learning Day 2018 (NEML'18). Cambridge, MA, USA. May 2018.
- **A Bridge between Homotopy Theory and Network Science**. Leo Torres and T. Eliassi-Rad. Graph Exploitation Symposium (GraphEx'18). Dedham, MA, USA. April 2018.
- **A Study of Cycle Length Distributions: Asymptotics, Applications, and Links to Homotopy Theory**. Leo Torres and T. Eliassi-Rad. The 9th International Conference on Complex Networks (CompleNet'18). Boston, MA, USA. March 2018.

Conferences

- CompleNet'18. Co-organizer: Society of Young Network Scientists pre-conference event. March 2018. Boston, MA, USA.
- NetSci'17. Co-organizer: the first Symposium for the Society of Young Network Scientists. June 2017. Indianapolis, IN, USA.

Software

- **decu** [`github.com/leotrs/decu`] *decu* is a suite of command line tools to automate the menial tasks involved in the development of experimental computation projects.
- **erdos** [`www.erdosnet.work`] *erdos* is an educational site for learning about and practicing Network Science through programming exercises.

Previous Experience

- **Attendant** – Recurse Center

  March 2016 - June 2016. New York, USA.

  Programmers' retreat, spent 12 weeks focusing full-time on developing programming skills in a self-directed way, in an environment with 40+ like-minded people. Focus on algorithm design and high-quality code writing standards.

- **Organizer of First Real Analysis Summer School** – Pontificia Universidad Católica del Perú

  January 2015 - March 2015. Lima, Perú.

  Taught real analysis at the undergraduate level, designed and graded homework, gave lectures, supervised presentations.

- **Foreign Language Assistant** – College of The Holy Cross

  August 2013 - May 2014. Worcester, Massachusetts, USA.

  Directed Spanish conversation lessons, focusing on speaking, listening and cultural sharing. Basic, intermediate and advanced levels.

- **Research Programmer** – Wolfram Research South America

  February 2012 - January 2014. Lima, Perú.

  Content development for the Wolfram|Alpha knowledge engine. Product of this tenure is live and freely available online. Youngest member of the first Wolfram Research South American team. Held full-time position while studying part-time.

Misc.

- **Languages:** Spanish (native), English (bilingual), French (beginner).
- **Computer skills:** Python (expert). Mathematica, Linux, LaTeX (advanced). MATLAB, C/C++, R, Javascript, lua, LISP, Haskell (intermediate).
- **Advocacy:** Open {Science, Source, Data}, Inclusion and Diversity.