

Juan Lozano, Ph.D.

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💬 Fluent in English and Spanish

Education

- Jan 2019 – Dec 2024 📚 **Ph.D. in Computer Science and Engineering**, University of California, Santa Cruz.
- Jan 2019 – May 2023 📚 **M.Sc. in Computer Science and Engineering**, University of California, Santa Cruz
- Feb 2011 – Nov 2015 📚 **M.Sc. in Biomedical Engineering**, Universidad Nacional de Colombia.
- Feb 2005 – May 2010 📚 **BSc. in Electronics Engineering**, Universidad Nacional de Colombia.

Awards and Achievements

- 2024 🎖 **CPSIoTSec 2024 Best Paper Award**, The Joint Workshop on CPS & IoT Security and Privacy.
- 2023 🎖 **Commander's Award**, 2023 Cyber Recon by United States Cyber Command.
- 2018 🎖 **Fulbright Scholarship**, US Department of State.

Teaching Experience

- Sep 2024 – Dec 2024 📚 **Teaching Assistant**. Applied Discrete Mathematics; Computer Science Department; Baskin School of Engineering; University of California, Santa Cruz.
- Mar 2024 - Jun 2024 📚 **Graduate Student Instructor**. Applied Discrete Mathematics (120 students class); Computer Science Department; Baskin School of Engineering; University of California, Santa Cruz.
- Sep 2019 – Dec 2023 📚 **Teaching Assistant**. Computer Security, Cyber Physical Systems Security & Applied Discrete Mathematics courses; Computer Science Department; Baskin School of Engineering; University of California, Santa Cruz.
- Feb 2011 – Nov 2012 📚 **Teaching Assistant**. Telemedicine graduate course; Medicine School; Universidad Nacional de Colombia.

Research Publications

Published or Accepted Works

- 1 K. Koneru, J. Lozano, J. Castellanos, E. Zambon, and A. Cardenas, "Unveiling the operation and configuration of a real-world bulk substation network," in *EAI SmartSP 2024 - 2nd EAI International Conference on Security and Privacy in Cyber-Physical Systems and Smart Vehicles*, IEEE, 2024.
- 2 L. Salazar, S. Castro, J. Lozano, *et al.*, "A tale of two industroyers: It was the season of darkness," in *2024 IEEE Symposium on Security and Privacy*, ser. 2024 IEEE Symposium on Security and Privacy, IEEE, 2024.

- 3 L. Salazar, E. Morales, J. Lozano, C. Medrano, and A. Cardenas, "Icsnet: A hybrid-interaction honeynet for industrial control systems," in *Proceedings of the Sixth Workshop on CPSIoT Security and Privacy (CPSIoTSec'24)*, 2024.
- 4 J. Lozano, K. Koneru, N. Ortiz, and A. A. Cardenas, "Digital substations and iec 61850: A primer," *IEEE Communications Magazine*, vol. 61, no. 6, 2023, ISSN: 0163-6804.
- 5 J. Lozano, K. Koneru, J. H. Castellanos, and A. A. Cardenas, "Timing analysis of goose in a real-world substation," in *2022 IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm)*, ser. 2022 IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm), IEEE, 2022, ISBN: 1-66543-255-1.

Work Experience

- Oct 2025 - Current █ **Data Scientist and Governance consultant** at Medellin Planning and development department; Medellín, Colombia.
Description: I am supporting Medellin's Land Use planning by interpreting, analyzing and generating statistical models from georeferenced data collected on the mandatory update of a Land Use Plan, I am applying Machine Learning and Natural Language Processing on innovative solutions for Colombia's second city next decade plan.
- Jan 2018 - Jul 2018 █ **Software Developer** at The District Institute of Science, Biotechnology and Innovation in Health (IDCBIS); Bogotá, Colombia.
Description: I designed and implemented a matching software for the Human Leukocyte Antigen for IDCBIS' Umbilical Cord Bank using Python and proposed validation strategies, additionally I implemented a Graphic User Interface.
- Aug 2017 - Dec 2017 █ **Patent Reviewer** at the Colombian National Patent Office; Bogotá, Colombia
Description: I reviewed novelty claims of patent files in the tech field, delivering reports that either accepted or denied a patent issued by the Colombian government.
- Mar 2016 - Nov 2016 █ **Human Gait and Computer Vision Lab Manager** at Universidad Manuela Beltrán; Bogotá, Colombia
Description: I managed a group of 3, we were in charge of an academic and private health facility that combined video and force sensors, I also proposed research projects for undergrad students and dealt with device vendors and private health providers.
- Feb 2013 - Jun 2015 █ **Telemedicine and Project Engineer** at the Universidad Nacional de Colombia's Telemedicine Center; Bogotá, Colombia
Description: I worked on establishing Telemedicine requirements for the Colombian Ministry of Health, I evaluated legal requirements for health devices safety compliance before Colombia's Invima office, I was also part of a group that worked on developing wireless technologies that would help data transmission on remote areas in Colombia aiming telemedicine applications.

Professional Service

- 2023 █ **Reviewer** of the article "*ERENO: A Framework for Generating Realistic IEC-61850 Intrusion Detection Datasets for Smart Grid in Transactions on Dependable Security*".

Professional Service (continued)

- 2025 ■ **Reviewer** of the article *Cybersecurity audit in critical infrastructures of the health sector using NIST CSF and OCTAVE Frameworks* in Revista Ingeniería Universidad de Antioquia

Skills

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|-----------|---------------------------------|
| Languages | ■ Spanish, English. |
| Coding | ■ Java, Python, R, SQL, Matlab. |
| Misc. | ■ Academic research, teaching. |