



# Carlos Loza

Machine Learning Scientist,  
Fulbright Scholar

- Austin, TX
- <https://www.carlos-loza.com>
- [carlos85loza@gmail.com](mailto:carlos85loza@gmail.com)
- Ecuadorian  
USA permanent resident

## Social Network

- carlosloza
- carlosloza

## Hard Skills

- Python, MATLAB, Git, SQL
- pandas, scikit-learn, numpy, scipy, tensorflow probability, keras, gluonTS, matplotlib, seaborn
- Probabilistic Machine Learning
- Statistical Signal Processing
- Computational Neuroscience
- Robust (outlier-aware) modeling

## Soft Skills

- Exceptional communication skills
- Able to work effectively in multidisciplinary teams
- Resiliency

## Languages

- Spanish ● ● ● ● ●
- English ● ● ● ● ●
- Italian ● ● ● ● ●

## Scientific services –

Reviewer for IEEE ICASSP, IEEE MLSP, IEEE Transactions on Signal Processing, MDPI Entropy, MDPI Applied Sciences

**1 PhD degree, 3 Master degrees, 20 peer-reviewed publications**  
Experienced machine learning scientist in the areas of probabilistic modeling, time series, and computational Neuroscience. Strong track-record of coding skills, statistical analysis, machine learning first principles, data wrangling, and drawing insights from complex data. Driven and with superior communication skills.

## Experience

- 2021 – present** **Data Scientist** One Drop  
Design of predictive models of biomarkers to help manage chronic diseases in a telehealth framework.
- 2020 – 2021** **Machine Learning Researcher** The University of Texas at Austin  
Postdoctoral fellow in charge of algorithm design for modeling and real-time detection of gamma oscillations in rodent hippocampus.  
Achievements: Increase in 30% of the AUC of precision-recall curve.
- 2017 – 2020** **Machine Learning Researcher** Universidad San Francisco de Quito  
Design of supervised and unsupervised learning algorithms applied to biosignals, images, and chemometrics.  
Achievements: 10 peer-reviewed papers published as first (most of the times sole) author during a 2.5-year tenure.
- 2013 – 2017** **Graduate Research Assistant** University of Florida  
Part of collaborative and solo projects at CNEL lab involving the intersection between machine learning and neuroscience.  
Achievements: Design of novel generative model for neuronal signals.
- 2010 – 2012** **Associate Professor** Universidad San Francisco de Quito  
Part of the Electrical Engineering department.  
Achievements: Design of advanced signal processing courses.

## Education

- 2014 – 2017** **PhD** University of Florida  
Electrical and Computer Engineering. GPA: 3.87/4
- 2015 – 2016** **Master of Science** University of Florida  
Biomedical Engineering. GPA: 3.97/4
- 2012 – 2014** **Master of Science** University of Florida  
Electrical and Computer Engineering. GPA: 3.84/4
- 2008 – 2009** **Master of Science** Politecnico di Torino  
Navigation and Related Applications. GPA: 27.02/30
- 2003 – 2007** **Bachelor of Science** Universidad San Francisco de Quito  
Electrical Engineering. GPA: 3.66/4

## Selected publications

- 2021** **Deep Neural Dynamic Bayesian Networks applied to EEG sleep spindles modeling**  
*Carlos A Loza, Laura L Colgin*  
To be published in MICCAI 2021 conference
- 2021** **Hippocampal place cell sequences differ during correct and error trials in a spatial memory task**  
*Chenguang Zheng, Ernie Hwaun, Carlos A Loza, Laura L Colgin*  
Nature Communications
- 2019** **RobOMP: Robust variants of orthogonal matching pursuit for sparse representations**  
*Carlos A Loza*  
PeerJ Computer Science
- 2017** **A marked point process framework for extracellular electrical potentials**  
*Carlos A Loza, Michael S Okun, and Jose C Principe*  
Frontiers in systems neuroscience

## Awards and honors

- 2021** DAAD AInet Fellowship German Academic Exchange Service
- 2017** Student Paper Competition finalist IEEE EMBS NER conference
- 2012** Fulbright grant for faculty development Fulbright Program