



# Nuno Calaim

## Curriculum Vitae

### Research

- 2020–2021 **Postdoctoral Researcher in Theoretical Neuroscience**, *Champalimaud Research*, Lisbon, Distributed Algorithms for Image Classification, Data Analysis, Data Modeling.
- 2013–2019 **PhD. in Theoretical Neuroscience**, *Champalimaud Foundation*, Lisbon, Robustness in Spike Coding Networks - theory and applications.  
Artificial Spiking Neural Networks, Efficient Coding Principles, Robustness to Artificial Perturbations, Data Analysis, dPCA. Supervisor: Christian K. Machens
- 2012 **Research Technician in Theoretical Neuroscience**, *Champalimaud Foundation*, Lisbon, Reinforcement Learning, Decision under Uncertainty.

### Education

- 2009–2011 **MSc. in Applied Mathematics**, *Instituto Superior Técnico*, Lisbon.  
Curriculum: Data Mining, Functional Analysis, Computability and Complexity, Biomedical Statistics, Master Thesis: *Optimal Decision Timing*
- 2005–2008 **BSc. in Applied Mathematics and Computer Science**, *Instituto Superior Técnico*, Lisbon.  
Curriculum: Cryptography and Security Protocols, Code Theory, Algorithms, Probability Theory, Probability and Statistics

### Skills

- Native Portuguese
- Fluent English, Python, Numpy, Pandas, Tensorflow, Matlab, Mathematica,  $\text{\LaTeX}$ , R
- Good Spanish, HTML/CSS/JS/PHP, SQL, No-SQL
- Basic French, Arab

### Soft Skills

- Creative, Curious, Fast-learner
- Social Work Voluntary work in Beira - Mozambique, 2009, 9 months, worked in 5 orphanages helping children (6-20 years) teaching Mathematics, English, Portuguese, Chemistry, Music.
- Leadership Leading a team from *Ser Alternativa*, a non-profit, working with children in the social area of Sintra

### Hobbies

- Music Piano (5 years), Classical Guitar (2 years), Drums (2 years), Latin Percussion (2 years), Bass (1 year), Violin (1 year)
- Sports Beach Volleyball, Hiking, Football

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🌐 [nunocalaim](#) • Married with 2 children. Date of birth: Sep-16-1987

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## Research Papers and Conferences

2020 **Robust coding with spiking networks: a geometric perspective.**, Nuno Calaim, Florian Dehmelt, Pedro J. Gonçalves, Christian K. Machens, <https://www.biorxiv.org/content/10.1101/2020.06.15.148338v1>.

CoSyNe Posters: 2020, 2019, 2019, 2017, 2015

NCCD Selected Talk: 2019; Poster: 2019, 2015

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## Invited Talks

2019 **Duke University, North Carolina**, Geometric interpretation of robustness in spike coding networks.

2018 **Instituto Superior Técnico, Lisbon**, Jornadas de Física.

2017 **University of Bern, Switzerland**, Robustness mechanisms in a distributed coding framework.

2014 **Instituto Superior Técnico, Lisbon**, Jornadas de Matemática.

2013 **Champalimaud Center for the Unknown, Lisbon**, Math Sense: Easier than you think, Ar event.

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