

Leonardo Agueci

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EDUCATION

École Normale Supérieure

PhD in Computational Neuroscience, Advisor: Prof. Alex Cayco Gajic

Paris, France

2021 - 2025

Thesis: *The Cerebellum as an error approximator: distributed learning in multi-region recurrent neural networks*

Sorbonne Université

M2 in Theoretical Physics - Complex systems

Paris, France

2018 - 2019

Politecnico di Torino

MSc in Physics of Complex Systems

Turin, Italy

2017 - 2019

Thesis: *Study of experience-related effective plasticity in prefrontal cortex using Restricted Boltzmann Machines.*

Politecnico di Torino

BSc in Physical Engineering

Turin, Italy

2014 - 2018

PROFESSIONAL EXPERIENCE

École Normale Supérieure

Postdoc Researcher, Group for Neural Theory, Advisor: Prof. N. Alex Cayco Gajic

Paris, France

Nov 2025 - Present

Politecnico di Torino

Research Assistant, Computer Science Department, Advisor: Prof. Andrea Calimera

Turin, Italy

Jan 2020 - Aug 2021

- Machine learning optimization and pruning algorithms for neural network compression.
- Neural network modeling and data analysis for predictive maintenance. Collaboration within the *MADEin4* and *R3-PowerUP* European Consortia.

National Metrology Institute of Italy

Research Intern

Turin, Italy

Mar - Jul 2017

- Studied the physics of Superconducting Quantum Interface Single Electron Transistor. Developed numerical models for device behavior using master equation solutions.

TRAINING COURSES

Mathematical Methods in Computational Neuroscience

Summer school, Fred Kavli Science Center

Eresfjord, Norway

Jul 19 - Aug 5, 2022

Intensive training in mathematical and physical methods for computational neuroscience research, covering techniques from mathematics, physics, and engineering for analyzing neural systems.

Machine Learning for Neuroscience

CAJAL summer school, Champalimaud Centre for the Unknown

Lisbon, Portugal

Jul 9-29, 2023

Hands-on introduction to artificial intelligence and machine learning for data acquisition, analysis and modeling of brain activity and behavior. Covered supervised/unsupervised learning, time series analysis, and reinforcement learning.

Spring College on the Physics of Complex Systems 4-week intensive programme, ICTP

Trieste, Italy
Feb - Mar 2019

Selected topics at the forefront of research in physics, biology, engineering, and economics, focusing on collective behavior in systems with many interacting degrees of freedom.

Visiting Student

Trieste, Italy

First semester MSc coursework, ICTP & SISSA

Sep 2017 - Feb 2018

Attended graduate-level courses in theoretical physics and complex systems as part of the joint PCS master's program.

TEACHING EXPERIENCE

PSL-Qlife Winter School in Quantitative Biology

Paris, France

Course Instructor, Dimensionality Reduction Techniques

Mar 25-29, 2024

Taught dimensionality reduction methods as part of the "Learning and Plasticity in Neuronal Networks" winter school program.

École Normale Supérieure

Paris, France

Teaching Assistant, Data Science

2022-23 & 2023-24

Master in Cognitive Science program (Cogmaster), PSL & Université Paris Descartes.
Assisted Prof. Alex Cayco Gajic with 26h of practical sessions

YouKnow Education

Mazara del Vallo, Italy

Private Tutor

Jan 2021 - Aug 2021

Individual and group tutoring in mathematics, physics, and sciences for high school and undergraduate students.

CONFERENCES

- Paris Ile-de-France Neural Theory Symposium (PINTS), Paris, France
[\(Poster\)](#) Dec 2025
- Symposium "Neuro-cybernetics at scale" 2025, Lisbon, Portugal
[\(Talk\)](#) Oct 2025
- CNS 2025 Annual meeting, Florence, Italy
[\(Talk\)](#) at the workshop "Linking structure, dynamics, and function in neuronal networks: old challenges and new directions" Jul 2025
- Paris Ile-de-France Neural Theory Symposium (PINTS), Paris, France
[\(Poster\)](#) Dec 2024
- Bernstein Conference 2024, Frankfurt, Germany
[\(Poster\)](#) Sep 2024
- Neural Control of Movements Annual meeting, Dubrovnik, Croatia
[\(Poster\)](#) Apr 2024
- COSYNE Conference 2024, Lisbon, Portugal
[\(Poster\)](#) Feb 2024
- Bernstein Conference 2023, Berlin, Germany
[\(Poster\)](#) Sep 2023
- Bernstein Conference 2023, Berlin, Germany
[\(organizer\)](#) of the workshop "Biologically plausible learning in artificial neural networks" Sep 2023
- Paris Ile-de-France Neural Theory Symposium (PINTS), Paris, France
[\(Poster\)](#) Dec 2022
- FENS Forum 2022, Paris, France
[\(Poster\)](#) Jul 2022