Filippo Moro

Research Scientist

Building intelligent systems

Zürich, Switzerland

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Links:

EXPERIENCE

- **2023 - PRESENT** **POSTDOC** **INI - Zurich, Switzerland**

As a Postdoctoral researcher, I contribute to Melika Payvand's group co-developing integrated hardware and algorithms for edge computation. The goal is to design and fabricate a chip that is energy-efficient, computationally powerful, and capable of learning online. Part of my job is supervising 3 Ph.D. students, as well as contributing to the main Lab project both on the algorithms and hardware sides.

- **2019 - 2023** **PHD STUDENT** **CEA Leti - Grenoble, France**

My project focuses on biology-inspired sensing and computation, making use of analog, memristive-based electronics. I thus have experience with machine learning, designing analog circuits, electrical characterization of memristors, and analog circuits. My interests led me to take courses on Machine Learning and Deep Learning. I worked in collaboration with Melika Payvand and Giacomo Indiveri from INI (ETH/UZH) and Jerome Casas (Université Tours) while being supervised by Elisa Vianello (CEA Leti).

- **2019** **MASTER THESIS** **ETH/UZH - Zurich, Switzerland**

During my 6 months in Zürich, I worked on biologically plausible, memristive-enhanced Reservoir Computing. I built a Recurrent network featuring two plasticity mechanisms, Spike-Driven Synaptic Plasticity, and Intrinsic Plasticity, showing that their implementation on memristive devices leads to improvements in performance.

EDUCATION

- **2019-2023** **PHD DEGREE** **Université Grenoble Alpes - Grenoble, France**
  Degree in Electronic Engineering
- **2017-2019** **MASTER OF SCIENCE** **Politecnico di Torino - Turin, Italy**
  Degree in Nanotechnologies for ICT, 110L/110
- **2014-2017** **BACHELOR'S DEGREE** **Politecnico di Torino - Turin, Italy**
  Degree in Physical Engineering

SKILLSET

LANGUAGES:

- Italian (mother tongue)
- English (proficient)
- French (proficient)
- German (basic)

INFORMATICS:

- Python (proficient)
  DL libraries: Pytorch, Keras, JAX
- Matlab (basic)
- C/C++ (basic)
- Experience with GPU clusters

ENGINEERING:

- Cadence-Virtuoso (intermediate)
- SPICE (intermediate)
- 4 Tapeouts experience