

# LEONARDO POLLINA

NEUROSCIENCE AND NEUROENGINEERING MASTER STUDENT AT ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE (EPFL)

I'm an enthusiastic, curious and determined student. The neuroscience field has always been for me a connecting bridge between diverse domains such as engineering, medicine and psychology. My personal interest focuses on the desire to exploit the existing knowledge to engineer new cutting-edge solutions in the neuroprosthetics field, especially through the use of computational models.



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## • PROFESSIONAL AND ACADEMIC EXPERIENCE

**MASTER THESIS RESEARCH INTERN FOR EPFL - HARVARD BERTARELLI PROGRAM: "TASK-DEPENDENT COMPUTATIONAL MODEL OF VENTRAL VISUAL CORTEX PROCESSING"**

Kreiman Lab - Harvard Medical School, Boston, MA, USA

03/2020 - Ongoing

- Quantitative analyses of neurophysiological recordings from human ventral visual cortex
- Development of computational models incorporating top-down feedback signaling carrying task information

Contact: Prof. Gabriel Kreiman

**SEMESTER RESEARCH INTERN: "EXPLORATORY RESEARCH OF DEEP LEARNING MODELS FOR EMG DECODING"**

Translational Neural Engineering (TNE) lab - EPFL, Lausanne, Switzerland

09/2019 - 02/2020

- Try different approaches to represent EMG data as images
- Build and validate several CNN-based Deep Learning regression models to predict the kinematic angle of each digit of the hand.

Contact: Prof. Silversto Micera

**STUDENT TEACHING ASSISTANT IN PROBABILITIES AND STATICS I**

EPFL, Lausanne, Switzerland

09/2019 - 01/2020

Tutor for second year bachelor students in weekly exercise sessions.

Contact: Prof. Darlene Goldstein

**STUDENT TEACHING ASSISTANT IN PROBABILITIES AND STATICS II**

EPFL, Lausanne, Switzerland

02/2019 - 06/2019

Tutor for second year bachelor students in weekly exercise sessions.

Contact: Prof. Darlene Goldstein

**SUMMER RESEARCH INTERN: "SPECTRAL ANALYSIS OF EEG DATA RECORDED IN A DIVIDED VISUAL ATTENTION TASK IN YOUNG AND OLD SUBJECTS"**

Vision Institute, Paris, France

06/2018 - 08/2018

- Spectral analysis of EEG data for the main frequency bands found in the brain (theta, alpha, beta)
- Non-parametrical statistical comparison between old and young subjects

Contact: Dr. Angelo Arleo, Dr. Elisa Tartaglia

**BACHELOR THESIS RESEARCH INTERN: "MONITORING THE EFFICIENCY OF CRE-ERT2 MEDIATED POT1 KNOCK-OUT IN 293E CELL LINE"**

Lingner Lab, EPFL, Lausanne, Switzerland

07/2017 - 08/2017

- Learn to handle human cells
- Establish the optimal conditions for CreERT2-mediate POT1 Knock-Out
- Perform a time course experiment and a Cre-independent POT1 KO with CRISPR/Cas9 system.

Contact: Prof. Joachim Lingner, Dr. Galina Glousker

## STUDENT TEACHING ASSISTANT IN ADVANCED GENERAL CHEMISTRY

EPFL, Lausanne, Switzerland

09/2016 - 01/2017

Tutor for first year bachelor students in weekly exercise sessions.

Contact: Prof. Samuel Terrettaz

## · EDUCATION

### MASTER OF SCIENCE (MSc) IN LIFE SCIENCES ENGINEERING - SPECIALIZATION: NEUROSCIENCE & NEUROENGINEERING

EPFL, Lausanne, Switzerland

09/2018 - ongoing

### ACADEMIC EXCHANGE (THIRD YEAR OF BACHELOR) - BIOENGINEERING AND BIOMEDICAL ENGINEERING

Aalto University, Helsinki, Finland

09/2017 - 06/2018

### BACHELOR OF SCIENCE (BSc) IN LIFE SCIENCES AND TECHNOLOGIES

EPFL, Lausanne, Switzerland

09/2015 - 06/2018

## · TECHNICAL SKILLS

- **MATLAB**: proficient user (also confident with EEGLAB toolbox)

- **PYTHON**: proficient user (libraries used: NumPy, SciPy, Scikit-learn, Pandas, Tensorflow, Keras, Pytorch, Brian)

- **SQL**: basic knowledge

- **LATEX**: independent user

- **MACHINE LEARNING AND DEEP LEARNING**: good to optimal knowledge about the main ML techniques and DL state-of-the-art models and tools

- **SIGNAL PROCESSING**: proficient with biomedical and neural signal processing

## · AWARDS

### BERTARELLI FELLOWSHIP IN TRANSLATIONAL NEUROSCIENCE AND NEUROENGINEERING

Bertarelli Foundation

02/2019

## · LANGUAGES

**ENGLISH**: proficient level (c1)

**FRENCH**: proficient level (c2)

**ITALIAN**: mother tongue

## · PERSONAL INTERESTS

TRAVELLING, READING, WRITING