Leonardo Rizzeri

Bioengineering for Neuroscience MSc Student | BCI, Neuroimaging & Neural Signal Analysis



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PROFILE

MSc student in Bioengineering for Neuroscience at the University of Padua, with a BSc in Electronic Engineering and IoT (110/110 cum laude). Academic experience in EEG analysis, biomedical machine learning and neuroimaging. Interested in brain-computer interfaces, neural decoding, multimodal neural interfaces and neurorobotics. Seeking a curricular research internship from March 2027 onward; open to international relocation.

EDUCATION

MSc in Bioengineering for Neuroscience
University of Padua | Present

Currently enrolled

BSc in Electronic Engineering and IoT
University of Trieste | July 2025

Final grade: 110/110 cum laude

Scientific High School Diploma - Applied Sciences
Liceo Scientifico G. Oberdan | June 2022

Final grade: 99/100

SELECTED PROJECTS

EEG / ERP Analysis - Face Processing
July 2026

Preprocessed 64-channel EEG recordings with EEGLAB (filtering, re-referencing, artifact rejection and epoching). Computed and compared event-related potentials.

Motor Imagery EEG - Neurorobotics
October 2026 | Ongoing

Working with multi-session EEG recordings in MATLAB/BioSig, including event-based segmentation, trial handling and preparation for motor-imagery analysis.

Biomedical Machine Learning
February - April 2026

Applied LDA, QDA, Random Forest and SVM to biomedical classification and regression datasets in R, including model tuning and evaluation.

Multimodal fMRI and FDG-PET Analysis
May 2026

Computed functional connectivity and cortical gradients; assessed relationships with glucose metabolism using MATLAB, FSL and BrainSpace.

fNIRS and DOT Image Reconstruction
July 2026

Performed fNIRS preprocessing, GLM activation estimation and optical tomography reconstruction with MATLAB and HOMER2.

TECHNICAL SKILLS

Programming & Data Analysis
MATLAB, R, Python (developing), Bash, C++; signal processing, statistical modelling, data visualization.

Python & Deep Learning - In Progress
Currently learning PyTorch, scikit-learn, TensorFlow and Keras through Neurorobotics and Deep Learning coursework.

Neural Signals & Neuroimaging
EEG/ERP, fNIRS/DOT, fMRI, FDG-PET; preprocessing, functional connectivity, activation and gradient analysis.

Machine Learning & Tools
LDA, QDA, Random Forest, SVM; EEGLAB, BioSig, FSL, HOMER2, BrainSpace, Git/GitHub.

Electronics
IoT, wireless power transfer, RF systems, PSpice, ModelSim and Verilog.

LANGUAGES

Italian (Native) | English (C1) | Spanish (B1)

Available from March 2027 onward. Flexible start date and duration; open to relocation.

WORK EXPERIENCE

BeeToo Agency - Web Developer
2023 - 2026

Developed and maintained websites, improving technical problem-solving, client communication and attention to detail.

Interclub Muggia - Basketball Coach
2021 - 2022

Developed communication, leadership and collaborative skills through coaching.

RELEVANT COURSEWORK

Neuroscience & Neuroengineering
Neurophysiology; Neural Computation and Neurotechnologies; Bioengineering for Cognitive Neuroscience; Neurorehabilitation.

Neural Signals & Biomedical Imaging
Biomedical Signal Processing; Imaging for Neuroscience; Biomedical Imaging.

Machine Learning & Deep Learning
Machine Learning and Data Science for Bioengineering; Deep Learning Applied to Neuroscience and Rehabilitation; Statistical Methods for Bioengineering.

Robotics & Assistive Technologies
Neurorobotics; Medical Robotics.

RESEARCH INTERESTS

I am especially interested in brain-computer interfaces that enable natural communication and interaction with assistive, robotic and virtual systems. My combination of electronic engineering, neural signal analysis and expanding machine-learning skills motivates me to contribute to interdisciplinary research in neural decoding, adaptive interfaces and neurotechnology.