



Laura Marras

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ABOUT ME

I am PhD student in Neuroscience at IMT school in Lucca (Italy), where I joined the research activities of the SEMper group of the MoMiLab unit. In my past projects, I investigated the neural correlates of decision-making in humans through the application of machine learning techniques on neurophysiological data. My research interests include the neuroscience of decision-making, action selection and representation, and motor control.

EDUCATION

- 11/2022 - CURRENT** **PHD IN COGNITIVE, COMPUTATIONAL AND SOCIAL NEUROSCIENCE**
IMT School for Advanced Studies Lucca
Italy
MoMiLab Research Unit · Sensorimotor Experiences and Mental Representations Group (SEMper)
- 03/2022 - 10/2022** **MASTER IN DATA SCIENCE**
Neural Academy
Italy
Programming in Python · Data Visualization · Data Preprocessing · Model Selection · Machine Learning
- 09/2019 - 08/2021** **RESEARCH MASTER IN COGNITIVE AND CLINICAL NEUROSCIENCE**
Maastricht University
Netherlands
GPA: 8.51/10
Thesis: Feedback processing during decision making in the human brain: an explorative study
- 09/2015 - 07/2018** **BSc IN SCIENCE AND TECHNOLOGY OF COGNITIVE PSYCHOLOGY**
University of Trento
Italy
Final grade: 110/110 with honours
- 09/2017 - 02/2018** **ERASMUS+ PROGRAMME: BSC PSYCHOLOGY - MSC COGNITIVE SCIENCE**
New Bulgarian University
Bulgaria

RESEARCH EXPERIENCE

- 09/2021 - 06/2022** **RESEARCH ASSISTANT: NEURAL INTERFACING LAB**
MHeNs,
Maastricht University
Netherlands
I contributed to the research activities of the Neural Interfacing Lab with a project aimed at investigating decision-making and feedback processing in reinforcement learning contexts by applying machine learning methods to human intracranial electrophysiological data.
 - Experimental design
 - Data analysis, coding and application of machine learning models, data visualization (Python)
 - Scientific writing
- 11/2020 - 08/2021** **INTERNSHIP: NEURAL INTERFACING LAB**
MHeNs,
Maastricht University
Netherlands
I carried on a research project aimed at characterizing human electrophysiological responses to feedback during decision-making.
 - Design of experimental paradigm and development of task GUI (Python Tkinter)
 - Implementation of classification algorithms to decode feedback valence from brain activity
 - Spectral and ERP analysis of stereotactic EEG data (Python)
 - Data Visualization and manuscript writing

- **04/2020 - 09/2020 RESEARCH ELECTIVE: BRAIN STIMULATION AND COGNITION GROUP**
Maastricht University
Netherlands I contributed to a study aimed at addressing the causal role of Alpha band oscillations in perceptive and attentional processes. I carried out all EEG data analysis stages, including preprocessing, artefact rejection, spectral analysis (MATLAB Fieldtrip) and statistical analysis (Jasp).
- **10/2018 - 04/2019 ERASMUS+ PLACEMENT PROGRAMME: E-MINDS LAB**
ICPHSD,
University of Coimbra
Portugal I participated in the activities of the E-Minds Lab by carrying out mainly activities related to academic writing and literature review.
- **10/2018 - 04/2019 INTERNSHIP: CATS GROUP**
CIMeC,
University of Trento
Italy I took part in a research project aimed at evaluating the effectiveness of multisensory motor training in updating spatial hearing abilities. I took care of participant recruitment, preparation of the experimental setting and data collection.

COMPETENCIES

- **DIGITAL SKILLS**
 - **Programming in Python and MATLAB**
 - **EEG Data Analysis and Preprocessing** · Python, Fieldtrip, EEGLab
 - **Statistical Analysis** · Python Scipy, Statsmodels, JASP
 - **Data Visualization** · Matplotlib, Seaborn
 - **Machine Learning** · Scikit-learn
 - **Basic GUI design** · Tkinter
 - **Microsoft Office** · Word, Excel, Powerpoint
- **TECHNICAL SKILLS**
 - **Scientific Writing** · LaTeX
 - **EEG setup and placement**
 - **fMRI preprocessing and data analysis** · Afni
 - **Experimental Design**
- **LANGUAGE SKILLS**
 - **Italian** · mother tongue
 - **English** · C1 (IELTS 7.5)
- **PERSONAL SKILLS**
 - **Ability to work autonomously**
 - **Problem-solving**
 - **Adaptability in international and different contexts**
 - **Critical thinking**
 - **Attention to details**
 - **Planning and organization**

Autorizzo il trattamento dei dati personali contenuti nel mio Curriculum Vitae in base all'art. 13 GDPR 679/16.