

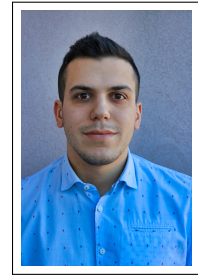
Lassi Michael

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Date of birth: **10/11/1995**



PhD student in Biorobotics at the Computational Neuroengineering Lab. Fascinated by data analysis, machine learning and neuroscientific research. With a problem-solver attitude, I am comfortable working in a team and in challenging environments. I am always trying to learn from others and to give my original contribution.

Work Experience and Projects

- **Machine learning algorithms for the prediction of neurological disorders** **Pisa, IT**
PhD Degree, Sant'Anna School of Advanced Studies *October 2020 - In progress*
 - Developing algorithms for the prognosis of rehabilitation outcome after stroke and for the onset prediction of Alzheimer's disease by merging multi-modal (neural, genetic, clinical) data.
 - Working closely with clinical partners and performing data collection on stroke subjects.

- **Analysis and prediction of motor responses elicited by TMS** **Genève, CH**
Master Project, UPHUMMEL Laboratory, EPFL *September 2019 - February 2020*
Supervisor: Prof. Hummel Friedhelm
 - Evaluation of predictability of multi-muscle motor responses to TMS through the use of machine learning models.
 - Evaluation of the possible presence of synergistic responses in motor evoked potentials after TMS stimulation.
 - Developed small GUI in Matlab for synergies extraction of multiple muscle responses elicited by TMS.
 - Acquired experimental knowledge in EMG signal acquisition and transcranial magnetic stimulation.

- **Computer vision for 3D hands pose reconstruction** **Lausanne, CH**
Internship, Logitech Europe SA *February 2019 - August 2019*
 - Use of deep learning algorithms to estimate position of hands' keypoints in RGB images.
 - Combination of classical computer vision models and neural networks to achieve real-time pose estimation without loss of accuracy.
 - Software development in C++ to process video stream.

- **Sensorimotor control of fine grasping in primates** **Fribourg, CH**
Semester project, TNE Laboratory, EPFL *September 2018 - January 2019*
Supervisor: Prof. Micera Silvestro
 - Processing of kinematic macaque's upper limb data, as well as neural data from motor cortex.
 - Exploration of a dataset of local field potentials, in order to extract significant and consistent features of grasping behavior.
 - Use of supervised machine learning tools in order to decode different kind of grasping behaviors from monkey's cortical activity.

- **Natural control of a BCI-driven robot** **Lausanne, CH**
Course Project, CNBI - Center for non-invasive brain interfaces *February 2018 - June 2018*
Prof. Millán José del R.

- Teamwork-based project to develop a classifier able to distinguish left and right hand motor-imagery tasks from cortical electroencephalographic data.
- Performance assessment in real-time application of various supervised machine learning algorithms.
- Basic experience in the use of 16 channel EEG recording systems.

Humanoid robot control for rehabilitation

Milano, IT

- *Bachelor's Thesis, NEARLab - Neuroengineering and Medical Robotics Lab* March 2017–July 2017
Supervisor: Prof. Pedrocchi Alessandra
- Development of C++ software for the integration of Inertial Measurement Units and humanoid NAO Robot, via movement mirroring.
- Programmed basic robot interactions with the user.
- Postprocessing analysis and evaluation of subjects' task execution based on Matlab scripts.

Education

École Polytechnique Federale de Lausanne (EPFL)

Lausanne, CH

- *Master's degree, Bioengineering (Neuroprosthetics), GPA: 5.68/6* September 2017 – February 2020
DATA ANALYSIS, NEUROSCIENCE, MACHINE LEARNING, BRAIN-COMPUTER INTERACTION
LOCOMOTION ANALYSIS, SIGNAL PROCESSING, NEUROENGINEERING
Award: Excellence Fellowship

Politecnico di Milano

Milano, IT

- *Bachelor's Degree, Bioengineering, Grade: 110/110 cum laude* October 2014 – July 2017
BIOMECHANICS, BIOMATERIALS,
PRINCIPLES OF ELECTRONICS, COMPUTER SCIENCE
Award: Premio Migliori Matricole 2014 (Best Freshman Award)

Liceo Scientifico A. Einstein

Rimini, IT

- *Secondary Diploma, Grade: 100/100 cum laude* September 2009–July 2014
Award: Albo Nazionale delle Eccellenze 2013 (National Board of Excellence)

Technical and Personal skills

○ Programming Languages:

- Python
- Matlab
- C++
- C

○ Languages:

- Italian: Native
- English: C1 (IELTS Certificate 2017: 8.0/9.0),
- French: Basic skills

○ Industrial Software:

- MS Office
- L^AT_EX
- Visual Studio
- Comsol Multiphysics
- Vicon Nexus

○ General Skills:

- Good oral presentation skills
- Teamwork attitude
- Keeping rational in front of problems
- Eager to learn new skills