Matteo Vissani

Biomedical Engineer

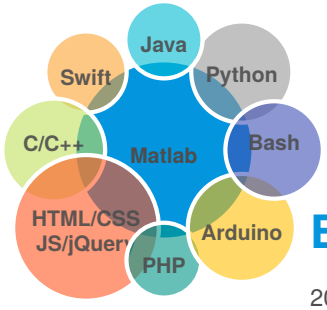
Address
Via Roma, 246
Pontedera (PI) 56025,
Italy

Tel & Skype
+39 3518550637
matteo.vissani

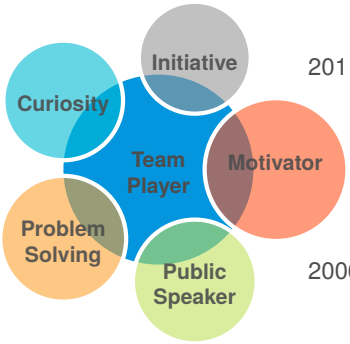
Mail
matteo.vissani92@
gmail.com

Web & Git
linkedin.com/m-vissani
github.com/MVissani
gitlab.com/MVissani

Programming



Personal Skills



Experience

10/17 - Now **PhD student in Biorobotics** Scuola Superiore Sant'Anna, Pisa (IT)
Breaking the current state of the art of neuromodulatory techniques with a particular focus on Deep Brain Stimulation:
- Signal processing (EMG, LFP, EEG, IMU) using Matlab, R and Python
- Image processing (f-MRI, SPECT, d-MRI) using SPM, FSL, TrackVis
- Embedded programming using Arduino for experiments (leds, buttons, TTL, serial ports, etc.)

02/17- 09/17 **Research Assistant & Neural Engineer** CHUV, Lausanne (CH)
Research experience @TheMySpaceLab of Dr. Andrea Serino:
- Built an iOS app to test multisensory integration deficits in patients
- Signal processing of behavioral data using Matlab, R and Python
- Realization of a 3D platform for moving sounds generation for psychosocial experiments

11/16 - 03/17 **Research Assistant & Neural Engineer** CRR SuvaCARE, Sion (CH)
Research experience @BlankeLab of Dr. Michela Bassolino:
- Signal processing of TMS and IMU data using Matlab, R and Python
- Built an user-friendly GUI interface to use Vicon equipment for psychologists

05/16 - 11/16 **Master's Degree Internship (Erasmus +)** Campus Biotech, Geneve (CH)
Joint Research experience @BlankeLab and Unibo with Prof. Elisa Magosso and Dr. Andrea Serino:
- Computational model of neurophysiological mechanisms using Matlab and Python
- Built of home-made Virtual Reality experiments using Oculus Rift and custom python/C# scripts

Education

2014 - 2017 **MSc in Biomedical Engineering** University of Bologna, Bologna (IT)
Extensive courses in Computational Modelling, Machine Learning, Embedded Programming and Rehabilitation Technologies.
Graduated with 110/110 cum laude and a score average of 29.81/30.

2011 - 2014 **BSc in Biomedical Engineering** Marche Polytechnic University, Ancona (IT)
Extensive courses in Math, Geometry, Digital and Analogic Electronic, Analytic Mechanic and Bioengineering.
Graduated with 110/110 cum laude and a score average of 29.73/30.

2006 - 2011 **Scientific Diploma** ITAS Matteo Ricci, Macerata (IT)
Curriculum: biology and chemistry. Graduated with 100 cum laude and a score average of 9.2/10.

OS Preference

GNU/Linux ★★★★★
MacOS ★★★★★
Windows ★★★★☆

Languages

Italian ★★★★★
English ★★★★☆
French ★★☆☆☆
German ★☆☆☆☆

Interests

Astronomy
AI
Music
Reading
Martial Arts

Publications

M.Vissani, I. Isaias, A. Mazzoni
Deep Brain Stimulation: a review of the open neural engineering challenges
J. Neural Eng., https://doi.org/10.1088/1741-2552/abb581

M.Vissani, R. Cordella, S. Micera, R. Eleopra, L. Romito, A. Mazzoni
Spatio-temporal structure of single neuron subthalamic activity identifies DBS target for anesthetized Tourette syndrome patients
J. Neural Eng. 16 066011, https://doi.org/10.1088/1741-2552/ab37b4

M.Vissani, R. Cordella, S. Micera, R. Eleopra, L. Romito, A. Mazzoni
Firing pattern of single neurons in the subthalamic nucleus of Tourette Syndrome patients identifies optimal deep brain stimulation target site: 1389
Movement Disorders, 2019

C. Palmisano, G. Brandt, M.Vissani, N.G. Pozzi, ..., I.U. Isaias
Gait Initiation in Parkinson's Disease: Impact of Dopamine Depletion and Initial Stance Condition
Front Bioeng Biotechnol. 2020;8:137. Published 2020 Mar 6. doi:10.3389/fbioe.2020.00137

M. Franza, G. Sorrentino, M.Vissani, A. Serino, O. Blanke, M. Bassolino
Hand perceptions induced by single pulse transcranial magnetic stimulation over the primary motor cortex
Brain Stimulation, May–June 2019, https://doi.org/10.1016/j.brs.2018.12.972

J. Miehlbradt, C. Pierella, ..., M.Vissani, A. Mazzoni, ..., S.Micera
Evolution of Cortical Asymmetry with Post-stroke Rehabilitation: A Pilot Study
International Conference of Neurorehabilitation, Pisa 2018

M.Vissani, A. Serino, E. Magosso
A Neural Network Model of Peripersonal Space Representation Around Different Body Parts
EMBEC & NBC 2017

Honors & Awards

08/2020 **Intesa San Paolo scholarship** Bio-Medico University of Rome
A fully-funded scholarship to partecipate in a competitive programme in AI, IoT and technology organized by Campus Bio-Medico University of Rome.

07/2019 **Best 3-min Speech Award** Scuola Superiore Sant'Anna
During my 2-year PhD evaluation @Volterra SIAF, I performed the best 3-min speech about my project.

09/2017 **Full-paid PhD Scholarship** Scuola Superiore Sant'Anna
A full-paid PhD scholarship. 1 out 100 participants.

03/2017 **Erasmus + Scholarship** University of Bologna
A merit-based scholarship to fulfill my master thesis at Campus Biotech in Geneve (CH)

10/2016 **Merit-based award** University of Bologna
Award of €1500 given by University of Bologna. Top 30 students.

Certifications & Summer Schools

08/2020 **IoT & AI e-Bootcamp** Bio-Medico University of Rome
An intensive 3-weeks programme with industries about artificial intelligence and IoT, culminating in a final hackathon about a real case-study provided by IBM.

07/2020 **Neuromatch Academy** NMA Team
A massive online summer school about computational methods in neuroscience.

06/2020 **Coach Industry 4.0** ARTES 4.0
A doctorate level course about industry 4.0 and entrepreneurship organized by ARTES 4.0 and Scuola Superiore Sant'Anna.

08/2019 **7th Baltic-Nordic School on Neuroinformatics** FIAS Frankfurt am Main
This course covered modeling at different levels spatio-temporal scales, from single neurons to microcircuits and networks, in healthy and diseased brains using NEURON and NEST.

07/2018 **7th International Summer School of Neuroengineering "Massimo Grattarola"** University of Genova
This summer school aimed to introduce computational and technological methods to researchers of different backgrounds (life sciences, physics, engineering) to interact with the brain.

10/2017 **Computational Neuroscience** Coursera. E-learning
Course of Computational Neuroscience

02/2016 **Safety Courses for students** University of Bologna
Safety Courses: General, Specific Part I and Part II

Invited Talks & Volunteering in Conferences

09/2020 **Guest speaker Lab Meeting** Noninvasive Neuromodulation Unit, National Institute of Mental Health
Title: *Computational methods for model-informed neuromodulatory approaches*

11/2019 **DBS Meeting** University Hospital Würzburg
Title: *An information-based approach to find robust biomarkers in local field potentials*

03/2019 **BioSNS PhD Day, Pisa** Scuola Normale Superiore
Title: *Unveiling subthalamic nucleus functional structure to improve deep brain stimulation therapies in movement disorders*

10/2018 **International Conference on Neurorehabilitation, Pisa** Scuola Superiore Sant'Anna
Volunteering: logistic support and technical aiding

Students tutoring

2019-2020 **Teaching Assistant** Scuola Superiore Sant'Anna
I performed two practical lessons in Information Theory and Neural Modelling Course of PhD programme in Biorobotics.

2018-Now **Projects and Thesis tutoring** Scuola Superiore Sant'Anna
I co-supervised 5 internship and 2 Master Thesis

Scientific Review

Transactions on Neural Systems & Rehabilitation Engineering (IF: 3.5).

Pisa, 1 August 2020

Matteo Vissani