

ZSOMBOR UNGVÁRSZKI

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OBJECTIVE

PhD student in computational neuroscience, in collaboration between France and Hungary. My main interests include neuroscience and engineering, with special regard to the combination of these two. I consider myself an ambitious and curious individual, who learns fast and thrives at problem solving. In my opinion, a passionate attitude with the ability to raise the good questions is the key to every creative solution.

EDUCATION

Molecular Bionics Engineering BSc , CGPA : 4.74/5 Faculty of Information Technology and Bionics, Pazmany Peter Catholic University	2015 - 2019 <i>Budapest, Hungary</i>
Info-Bionics Engineering MSc , CGPA : 4.75/5 Faculty of Information Technology and Bionics, Pazmany Peter Catholic University	2020 - 2021 <i>Budapest, Hungary</i>
Erasmus mobility École Supérieure de Biologie, Biochimie, Biotechnologies, Catholic University of Lyon	2021 <i>Lyon, France</i>
PhD in Neurosciences Neurosciences and Cognition Doctoral School, Université Claude Bernard Lyon 1	2022 - present <i>Lyon, France</i>

RESEARCH AND EXPERIENCE

Molecular Biology Lab - Pazmany Peter Catholic University <i>Tutored individual study</i> <i>Supervisor: Péterfia Bálint</i> <ul style="list-style-type: none">· Studying the molecular cloning of E. coli bacteria.· Developing a wide range of skills in the use of laboratory equipment. basic scientific paper research, writing, and reading skills.	2016 <i>Budapest, Hungary</i>
Biomicrofluidics Lab - Pazmany Peter Catholic University <i>Scientific assistant</i> <i>Supervisor: Laki András</i> <ul style="list-style-type: none">· Research, design, and development of a microfluidic particle separator for circulating tumor cells detection.· Scientific paper writing, working with laboratory equipment, fabrication of microfluidic devices, organizing web content of the lab.	2017 - 2019 <i>Budapest, Hungary</i>

Hungarian Academy of Sciences - Research Centre for Natural Sciences

Internship

Supervisor: Márton Gergely

2020 - 2022

Budapest, Hungary

- Development of a brain-computer interface system based on human electrocorticographic data.
- Biological signal processing with machine learning and deep learning algorithms.
- Product development, design and 3D prototyping of an EEG medical device.

Inserm - Stem-cell and Brain Research Institute (SBRI)

Internship

Supervisor: Emmanuel Procyk

2022

Lyon, France

- Studying the neural correlates of decision making in non-human primate prefrontal cortex.
- Population dynamics analysis using dimensionality-reduction to study the encoding of the decision and its representation on the low-dimensional latent space.
- Learning basic electrophysiological techniques to recording with linear multielectrode arrays.

Inserm - Stem-cell and Brain Research Institute (SBRI)

2022 - present

Wigner - Computational Systems Neuroscience Lab (CSNL)

PhD

Lyon, France & Budapest, Hungary

Supervisors: Emmanuel Procyk (SBRI), Gergő Orbán (CSNL), Matteo Di Volo (SBRI)

- Analyzing neural dynamics at the population-level.
- Biophysical modelling of spiking neural networks.
- Cognitive modelling of the recorded behaviour.

EXTRA-CIRRICULAR ACTIVITIES AND ACHIEVEMENTS

Animator community at PPCU

2016 - 2019

- Organising mid-year events, trainings, weekends, free-time activities for the freshman and fellow animators.

Mentor program at PPCU

2018

- Helping foreign students before and during their stay in Budapest.

EESTEC LC Budapest

2019 - 2022

Vice-chairman 2020-2022

- Building international relations with the members of EESTEC, one of the biggest student associations in Europe.

SKILLS AND INTERESTS

Languages

Hungarian
English (C1)
French (learning passionately)

Programming languages

Python (advanced)
Matlab (user level)

OS

Linux, Mac, and Windows

Design Softwares

Fusion360, Meshmixer, Autocad