



Atalanti A. Mastakouri

PhD student at Max Planck Institute for Intelligent Systems - Empirical Inference Department

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Education

- 11/2016 - 10/2020 **PhD**
Max Planck Institute for Intelligent Systems - Empirical Inference Department, Tübingen, Germany
Advisors: Dr. Dominik Janzing, Prof. Bernhard Schölkopf, Prof. Felix Wichmann
Topic: Causal feature selection in neuroscience
Field: Machine learning & Causal feature selection in Neuroscience
Project: Development of causal feature selection methods for Electroencephalographic (EEG) data. Application of machine learning and signal processing techniques for EEG data analysis. Design and conduct of EEG and non-invasive brain stimulation experiments for studying humans' motor cortex.
- 10/2010 - 7/2015 **Diploma in Electrical and Computer Engineering (ECE)**
National Technical University of Athens (N.T.U.A.), Greece
GPA: 9.30/10 (10 is the highest), Excellent, ranked top 3%
Diploma: BSc + MSc equivalent (10 semesters curriculum, 300 ECTS)
Direction: Electronics and Systems
Sub-directions:
- Computational Systems
 - Bioengineering
 - Electronics, Circuits, Materials
 - Telecommunications
- Advisors:** Prof. Konstantina S. Nikita, MD, PhD N.T.U.A., Post doc. research fellow Konstantinos Michmizos, Harvard Medical School, doctoral Associate at MIT
Master Thesis: Auditory brain activity analysis with EEG source space imaging using the Dynamic Statistical Parametric Maps method and computation of the functional connectivity at the sensor space with Phase Locking Value method

Corporate Research Experience

- 5 months, 10/2019-2/2020 **Applied Science Internship, AWS Deep Engine-Science**
Amazon Research Tübingen, Germany
Causality Group.
(Evaluation: "Outstanding and profound knowledge and great expertise")

Academic Research Experience

- 1 week, 9/2019 **Attendance of Machine Learning Frontiers in Precision Medicine**
Organized by ETH, FHNW Muttensz, Basel, Switzerland
- 2 weeks, 8/2018 **Attendance of Machine Learning Summer School**
Machine Learning Summer School, Universidad Autónoma de Madrid, Madrid, Spain
- 3/2016 - 9/2016 **Graduate Junior Researcher**
Defitech Chair in Brain - Machine Interface CNBI of Interfaculty Institute of Bioengineering, Ecole Polytechnique Federal de Lausanne, Switzerland (E.P.F.L.)
Advisors: Prof. José del R. Millán
- 10/2015 - 3/2016 **Graduate Internship**
Max Planck Institute for Intelligent Systems, Empirical Inference Department
Advisors: Prof. Moritz Grosse-Wentrup, Prof. Bernhard Schölkopf
Topic: Brain-controlled rehabilitation robots
- 6/2015 - 7/2015 **Undergraduate Researcher**
National Technical University of Athens (N.T.U.A.) and University of Mental Health Research Institute
Advisors: Dr. Maria Christopoulou, Prof. Konstantina Nikita
Summary: Co-design and conduct of an EEG psychoacoustic experiment aiming to study the impact of cell phones radiation at the auditory function

Publications

- **Causal analysis of Covid-19 Spread in Germany**, Atalanti A. Mastakouri, Bernhard Schölkopf, Conference on Neural Information Processing Systems (NeurIPS), 2020
- **Selecting causal brain features with a single conditional independence test per feature**, Atalanti A. Mastakouri, Bernhard Schölkopf, Dominik Janzing, 33rd Conference on Neural Information Processing Systems (NeurIPS), 2019
- **Beta Power May Mediate the Effect of Gamma-TACS on Motor Performance**, Atalanti A. Mastakouri, Bernhard Schölkopf, Moritz Grosse-Wentrup, 41st IEEE International Engineering in Medicine and Biology Conference (EMBC), Berlin, Germany 2019
- **Personalized brain-computer interface models for motor rehabilitation**, Atalanti A. Mastakouri, Sebastian Weichwald, Ozan Özdenizci, Timm Meyer, Bernhard Schölkopf, Moritz Grosse-Wentrup, IEEE International Conference on Systems, Man, and Cybernetics (SMC), Banff, Alberta, Canada 2017

Submitted work (under review)

- **Necessary and sufficient conditions for causal feature selection in time series with latent common causes**, Atalanti A. Mastakouri, Bernhard Schölkopf, Dominik Janzing, 34th Conference on Neural Information Processing Systems (NeurIPS), 2020
- **Stratification of behavioral response to transcranial current stimulation by resting-state electrophysiology**, Atalanti A. Mastakouri, 2020

Technical Skills

- **Programming Languages:** Matlab, Python (advanced), C (intermediate), Pascal (basic)
- **Platforms:** Git, L^AT_EX, Unity
- **Operating systems:** Linux, Windows
- **Microcontrollers Programming:** Assembly 8085, Assembly 8086, Atmel AVR Assembly

Distinctions

- Personal invitation by the Mathematisches Forschungsinstitut Oberwolfach for the ELLIS Workshop on Interactive Learning and Interventional Representations (Germany, 2020)
- **Award of 1000 Euros** for achieving the **highest grade of access in the university (19729/20000 points) in high school**, Bank of Eurobank, Athens, Greece
- **16th/300 order of entry** at the Dept. of Electrical and Computer Engineering of National Technical University of Athens
- **14th/466 order of graduation** from the Dept. of Electrical and Computer Engineering of the National Technical University of Athens (**top 3%**)

Languages

- **Greek:** Mother tongue
- **English:** Proficient (Cambridge Certificate of Proficiency in English, Michigan Certificate of Proficiency in English)
- **French:** Fluent (Delf B2)
- **German:** Basic