



# Atalanti A. Mastakouri

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## Work Experience

- 01/2021 - Present **Applied Research Scientist, Lablets**  
Amazon Research, Tübingen, Germany  
Causality Group
- 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"

## 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 inference, Neuroscience  
**Description:** 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
  - Electronics, Circuits, Materials
  - Bioengineering
  - 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

## Academic Research Experience

- 1 week, 9/2019 **Attendance of Machine Learning Frontiers in Precision Medicine**  
Organized by ETH, FHNW Muttentz, 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

- **Necessary and sufficient conditions for causal feature selection in time series with latent common causes**, Atalanti A. Mastakouri, Bernhard Schölkopf, Dominik Janzing, 38<sup>th</sup> International Conference on Machine Learning (ICML), 2021
- **Causal analysis of Covid-19 Spread in Germany**, Atalanti A. Mastakouri, Bernhard Schölkopf, 34<sup>th</sup> 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, 33<sup>rd</sup> 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, 41<sup>st</sup> 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
- **Stratification of behavioral response to transcranial current stimulation by resting-state electrophysiology**, Atalanti A. Mastakouri, arXiv, 2020

## Invited talks

- Invited Talk at Copenhagen Causality Lab (CoCaLa), April 2021
- Invited Talk at EPFL, Medical Image Processing Lab, December 2021

## Service

- Invited Program Chair for IJCAI 2020
- Reviewer for Human Brain Mapping Journal
- Reviewer for PLOS Biology
- Reviewer for Neural Information Processing Conference 2021
- Reviewer for International Conference on Learning Representations 2022
- Social Co-Chair for CLeaR 2022

## Technical Skills

- **Programming Languages:** Matlab, Python (advanced), C (intermediate), Pascal (basic)
- **Platforms:** Git, L<sup>A</sup>T<sub>E</sub>X, 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:** Native
- **English:** Proficient (Cambridge Certificate of Proficiency in English, Michigan Certificate of Proficiency in English)
- **French:** Fluent (Delf B2)
- **German:** Basic