

# David Munoz Tord



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## EXPERIENCE

### UNIVERSITY OF GENEVA | GRADUATE TEACHING ASSISTANT IN STATISTICS

September 2020 – January 2022 | Geneva, Switzerland

- Taught theoretical aspect of statistical modelling.
- Created freely available data wrangling [tutorials and workshops](#) in R and Python.
- Assisted teacher with classroom management and document coordination.

### CAMPUS BIOTECH | GRADUATE RESEARCH ASSISTANT IN NEUROSCIENCES

March 2020 – November 2021 | Geneva, Switzerland

- Used various statistical methods to analyze large scale dataset: Hierarchical Bayesian modeling, Multivariate pattern analysis, and Behavioral computational modeling (model-free reinforcement learning).
- Researched and studied human health conditions and behavior.
- Processed terabytes of raw MRI data for a large scale of longitudinal clinical trials on the neural underpinnings of decision-making.
- Managed data obtained in neuroimaging experiments according to the BIDS regulatory compliance specifications.
- Set up and maintained a Linux cluster for scientific computing for the lab.
- Presented research findings to scientific audience and general public.
- Helped other lab members with their analysis and created online tools for data visualization.

### GENEVA UNIVERSITY NEUROCENTER | INTERNSHIP IN COMPUTATIONAL NEUROSCIENCES

August July 2019 – December 2019 | Geneva, Switzerland

- Training in the notions of model falsification and parameter recovery in a theory-driven approach to computational modelling.
- Applied these new methods on open-source datasets. [Project](#).

### UNIVERSITY OF GENEVA | UNDERGRADUATE RESEARCH ASSISTANT IN PSYCHOLOGY

February September 2016 – August 2017 | Geneva, Switzerland

- Collecting data for a cognitive neuroscience experiment.
- Processing and analysis of EEG/ERP signal.

## PROJECTS

### WE DATA | JAVASCRIPT, R AND PYTHON - 2022

- We Data is an organization that shares knowledge on code in social sciences ([Blog](#), [YouTube channel](#)), give statistical courses, and do coding demonstrations.

### hBayesDM | STAN, R AND PYTHON - 2021

- Collaborated on the Hierarchical Bayesian modeling of Decision-Making tasks library [[hBayesDM](#)]. Added Q-learning algorithm for probabilistic selection task.

### 3dLMER | BASH AND R - 2020

- Collaborated on the AFNI's functions for 3Dimensional Linear Mixed-Effects Regression [[3dLMER](#)]. Fixed residuals output image by adding bottom tolerance.

### REBUND | JAVASCRIPT, HTML, CSS - 2020

- Developed an online interactive experiment to investigate chemo sensory preferences with the Revealed Preference paradigm [[Rebund](#)].

## SKILLS

### PROGRAMMING

#### Proficient:

R • Python • BASH • MATLAB

#### Experienced:

SQL • L<sup>A</sup>T<sub>E</sub>X • STAN • JavaScript • HTML • CSS

### LIBRARIES/Frameworks

TensorFlow • Scikit-Learn • Pandas • Spark MLlib • PyTorch • Matplotlib • Numpy • Dash • Tidyverse • Tidy-bayes • Rstan • Caret • Glmnet • jQuery • Node.js • Bootstrap

### TOOLS/PLATFORMS

Git • WordPress • Docker • Tableau

## EDUCATION

### MASTER OF NEUROSCIENCES | GENEVA NEUROCENTER

Sept 2018 - March 2020 | Switzerland

Coursework in Reinforcement learning, AI, Data science and Neuroimaging. GPA: 3.85

### COMPLEMENTARY STUDIES IN DATA SCIENCE | UMASS AMHERST

Sept 2017 - June 2018 | MA, USA

Received Global Fellow full scholarship. Capstone project: Detecting planets via transits. SQL database querying.

### BACHELOR OF SCIENCE | UNIVERSITY OF GENEVA

Sept 2014 - June 2017 | Switzerland

Relevant coursework completed in statistics and scientific programming.

### COURSEWORK

Algorithms • Data Mining • Machine Learning • Artificial Intelligence • Linux System Administration • Visualization For Scientific Data • Database Management Systems • Object Oriented Programming • Scripting Languages and Web Tech

## PUBLICATIONS

**Differential contributions of ventral striatum subregions to the motivational and hedonic components of the affective processing of the reward. Paper**

Pool, E. R., Munoz Tord, D., Delplanque, S., Stussi, Y., Cereghetti, D., Vuilleumier, P., & Sander, D. *Journal of Neuroscience* (2022)

**3D-printed pacifier-shaped mouthpiece for fMRI-compatible gustometers. Paper**

Munoz Tord, D., Coppin, G., Pool, E. R., Mermoud, C., Pataky, Z., Sander, D., & Delplanque, S. *Eneuro* (2021)

**Early spatial attention deployment toward and away from aggressive voices. Paper**

Burra, N., Kerzel, D., Munoz Tord, D., Grandjean, D., & Ceravolo, L. *Social Cognitive and Affective Neuroscience* (2019)

## REFERENCES

Jose Manuel Nunes, Lecturer in statistics at University of Geneva ✉ [Jose.deAbreuNunes@unige.ch](mailto:Jose.deAbreuNunes@unige.ch)

Ben Meuleman, Statistician at University of Geneva ✉ [Ben.Meuleman@unige.ch](mailto:Ben.Meuleman@unige.ch)

Pr. David Sander, Director of the Center for Affective Sciences ✉ [David.Sander@unige.ch](mailto:David.Sander@unige.ch)

Eva R. Pool, Senior Researcher at Campus Biotech ✉ [Eva.Pool@unige.ch](mailto:Eva.Pool@unige.ch)

## EXTRACURRICULAR ACTIVITIES

- Co-founder of *Go-Fast*, a cooperative society of Bike Messengers in Geneva.
- Co-president of *La Rustine*, a non-profit organization promoting non-motorized mobility and self-sustainability in Switzerland.
- Rock climbing, astrophysics and Linux enthusiast.

## LANGUAGES

Fluent

ENGLISH | FRENCH | SPANISH

Basic

GERMAN | ITALIAN | PORTUGUESE