

David Munoz Tord



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EXPERIENCE

CICAD ORGANISATION | DATA ENGINEER

Part-time: October 2022 – Present | Geneva, Switzerland

- Worked closely with analysts across departments to design, build and deploy various initiatives within the data platform.
- Developed, deployed and maintained data services using R and PostgreSQL.
- Prepared and presented analysis for trimestrial reports.
- Designed best practices to support continuous process automation for data ingestion and data pipeline workflows.
- Automated amalgamation of data from spreadsheet revenue calculations and PDF reports reducing month end processing time from 2 days to 4 minutes.

FLOWBANK SA | FULL STACK DATA SCIENTIST

Part-time: April 2022 – Present | Geneva, Switzerland

- Managed Linux servers for Data Science team.
- Developed ETL for on-premise PostgreSQL Data Warehouse.
- Built ML pipelines to implement predictive models to detect fraud in clients behavior.
- Demonstrated knowledge and execution of application programming interface development and test automation.
- Updated data streaming processes for a reduction in redundancy and pipeline automation using CI/CD principles.
- Utilized analytical and technical expertise to provide insights and proposals to support business improvements.

UNIVERSITY OF GENEVA | LECTURER IN STATISTICS

Part-time: September 2020 – Present | Geneva, Switzerland

- Taught theoretical aspect of statistical modelling.
- Created freely available data wrangling tutorials and workshops in R and Python.

CAMPUS BIOTECH | GRADUATE RESEARCH ASSISTANT IN NEUROSCIENCE

March 2020 – November 2021 | Geneva, Switzerland

- Used various statistical methods to analyze large scale dataset: Hierarchical Bayesian modeling, Multivariate pattern analysis, and 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.
- Managed neuromedical data according to the BIDS regulatory compliance specifications.
- Set up and maintained a Linux cluster for scientific computing for the lab.
- Helped other lab members with their analysis and created online tools for data visualization.

GENEVA UNIVERSITY NEUROCENTER | INTERNSHIP IN COMPUTATIONAL NEUROSCIENCE

August July 2019 – December 2019 | Geneva, Switzerland

- Processing and analysis of EEG/ERP signal.
- 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. CompModeling.

SKILLS

PROGRAMMING

Proficient:

R • Python • BASH • SQL

Experienced:

MATLAB • STAN • JavaScript

LIBRARIES/Frameworks

TensorFlow • Scikit-Learn • Pandas
• Spark MLlib • PyTorch • Matplotlib •
Numpy • Dash • Tidymverse • Tidy-
bays • Rstan • caret • glmnet •
jQuery • Node.js • Bootstrap

TOOLS/Platforms

Git • AWS • Docker • Azure

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 • Visual-
ization For Scientific Data • Database
Management Systems • Object
Oriented Programming • Scripting
Languages and Web Tech

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.

DbViewer | JAVASCRIPT, R AND SQL - 2022

- Built a shiny app that simulates a database management system featuring functions like login authentication, save/create/delete tables, add/rename columns, using either a PostgreSQL or SQLite back-end database [[DbViewer](#)].

hBayesDM | STAN, R AND PYTHON - 2021

- Collaborated on the Hierarchical Bayesian modeling of Decision-Making tasks library [[hBayesDM](#)]. Built 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 - 2020

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

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

Pierre Saouter, Head of Data Science at FlowBank ✉ Pierre.saouter@flowbank.com

Jorge Figueiredo, Head of Information Security at FlowBank ✉ Jorge.figueiredo@flowbank.com

Meirav Banon Skornik, Senior Analyst at the CICAD organisation ✉ Meirav@cicad.ch

Ben Meuleman, Statistician at University of Geneva ✉ Ben.Meuleman@unige.ch

Eva R. Pool, Senior Researcher at Campus Biotech ✉ 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 |

JAPANESE