# Dmitrii **Altukhov**

Data scientist / ML engineer · PhD (Computer Science)

*Amsterdam, The Netherlands*

publications (Scopus) | dmalt | dmitrii-altukhov-258b05233 | altukhov.dm@gmail.com | +316 136 36 770


## Profile

For the past 8 years, I've been immersed in brain signals research. My projects involved software development, data engineering, and data science focused on time series analysis. I'm a lifelong learner who is constantly seeking novelty. I am passionate about applied mathematics and code.

## Skills

Python, Numpy, Pandas, Scikit-learn, PyTorch, SQL, Linux, linear algebra, ML, signal processing

## Experience

**SBDA Group** — *Astana, Kazakhstan (remote)*

Data scientist, contract — *Sep. 2023 – Oct. 2023*

- Developed and implemented a package for optimizing manufacturing schedule in **Python**

**Artificial Intelligence Research Institute (AIRI)** — *Moscow, Russia*

Research fellow — *Feb. 2022 – Apr. 2023*

- Built deep learning model for decoding speech from MEG data in **PyTorch**, meg_speech_decoding on github
- Developed real-time pipeline for EEG timeseries analysis using **Python**

**Higher School of Economics, Centre for Cognition and Decision Making** — *Moscow, Russia*

Research fellow, Python software developer — *Feb. 2017 – Dec. 2021*

- Led 4-people group developing software for real-time ML and 3D visualization of brain activity from EEG using **Python**
- Created a pipeline for MEG data preprocessing, see metacognition, MRI_metacognition on github

**University of Montreal, CERNEC lab., and Moscow MEG Center** — *Montreal, Canada, Moscow, Russia*

Visiting researcher, temporary position — *Feb 2015 – Dec 2018*

- Built a classifier for ASD patients vs. Controls with 75% accuracy using classical ML and information geometry in **Python**
- Co-developed an open-source **Python** package for heavy neuroimaging data processing, Neuropycon
- Published four papers in collaboration with the University of Montreal

**Scientific Research Institute of System Analysis** — *Moscow, Russia*

Research assistant, promoted to junior research fellow — *Jun. 2011 – Jan. 2015*

- Tested software for simulations of flow in jet engines; implemented a droplet evaporation model in **C++**

## Education

**Ph.D. in Computer Science** — *Moscow, Russia*

Higher School of Economics, Faculty of Computer Science — *Jan. 2016 – Nov. 2021*

- Thesis: "Optimal methods for functional connectivity estimation in magnetoencephalography."; GPA: 4.0
- Published a paper in a leading neuroscientific journal (see Ossadtchi et al. [2018]) by proposing an algorithm for brain signals analysis.

**Specialist degree in Mechanics *(Masters equivalent)*** — *Moscow, Russia*

Lomonosov Moscow State University, Department of Mechanics and Mathematics — *Sep. 2008 – Jun. 2013*

- Thesis: "Enhancement and validation of LOGOS software for simulations of the reactive fluid flows."

## Honors & Awards

- Completed *Google foobar* algorithms coding challenge — *online, 2020*
- Selected 1-st out of 5 teams *IEEE Brain Data Bank Challenge* for building a BCI drinking game — *St. Petersburg, Russia, 2017*