



Alexandre Aksenov

Computational scientist, Machine Learning



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Skills

Mathematics

Machine Learning

Python

Rust

Signal processing

Matlab

Detail

Mathematics : Number Theory, Probability, algorithms.

Python : numpy, pandas, polars , mypy, pytest, streamlit, django, FastApi .

Machine Learning : scikit-learn, seaborn, recommender systems, Reinforcement Learning, scipy, AutoML, Graph ML , keras.

Rust : tracing, ndarray, pyo3 (interface Rust → Python).

C : OpenGL, Inline Assembly.

Signal processing : statsmodels, tsfel.

Matlab : EEGLAB, Parallel Computing.

Others : cuda, SQL, docker, typescript, OCaml.

Languages

French, English, Russian, Spanish

Experience (4 years in Data Science)

- 2025 Cryptologist, Régie Portage/KOI Foundation (Syngapore) (remote)
Implementing a Zero-Knowledge Proof on Virtual Machine.
- 2020-2023 Data scientist, SAS CorStim (medical startup) Montpellier, France
Analyzed brain data (EEG, ECoG). Identified Traveling Waves (as cortical patterns observed during speech) through custom Algorithms and implementation (Matlab). Analysed data of a clinical test of use of electric stimulation (tACS) to compensate/heal people with post-stroke aphasia. 3 journal articles. Took over a colleague's project.
- 2017-2019 Teaching University of Paris 2
Seminars in Mathematics and Statistics for 1st and 2nd year students in Economy and Law. Students' current jobs include : Investment Banking Analyst, Data Manager, Pricing and Business Analyst.
- 2016-2017 Post-doctorate GIPSA-lab, Grenoble
Determined optimal measurement times for observing a process over a Finite Period of time using a Kalman filter and a fixed (possibly small) number of noisy observations. Observed (experimentally through optimisation) a shifted regular sampling is optimal under mild conditions.

Education

- 2024 «Data Scientist», Mines Paris, DataScientest
Project : analysis of Chest X-ray images for detecting COVID using OpenCV, Tensorflow, Keras.Coordinated the common working environment using Conda , participation in backend and frontend.
Modules : «Docker», «SQL for Data Science», «Convolutional Neural Networks with Keras», «CI/CD», «Bash and Linux», «MLFlow», «Time Series with statsmodels», «Exploratory Statistics», «Text mining».
- 2014 Ph.D. Number Theory University of Grenoble
Studying properties of fractals. Computation and plotting for an application in crystallography/ quasicrystals.
- 2009 Master 2 in Mathematics University of Paris 11
- 2007 Licence 3 in Maths-Computer Science. University of Paris 7
- 2006-2010 École Normale Supérieure. Paris, France
- 2004-2006 Classes préparatoires aux grandes écoles (Maths-Physics) Grenoble

Certificates

- 2024 «Machine Learning. Advanced», OTUS.
Project : prediction of finger movements on basis of brain signals (ECoG) using Time-Series segmentation, filtering, detction of idle periods, Gradient Boosting for classification, regression.
- 2019 «C++ for C programmers», CourseRA. Project : algorithms on graphs.
- 2019 «SQL summer camp 2019», Kaggle.
- 2018-2019 «Deep Learning», CourseRA (Stanford University).

Publications

Publications (h-score = 4).
Patents with CEA : US12059258B2, FR3115124B1 .

Awards:

1999-2002 Prices in school olympiads in mathematics.

Other

- 🐛 Reported bugs in Matlab R2021b , RustRover 2025.1.1.
- ♟️ Former chess player and national referee (France).
- 📷 Other hobbies : photography, history.