Dmitry Evdokimov — ML Researcher / Engineer

dmevdok@gmail.com | github.com/dmevdok

Education

Bachelor: NRNU MEPhI — **Experimental nuclear and astroparticle physics**
Master: HSE — **Data Science** >> *currently here, 2nd grade* <<

Tech skills

- **Python, ML/DL:** torch, tensorflow, sklearn, numpy, scipy, spark, SQL, matplotlib, pandas
- **Dev & Ops:** git, docker, experience with REST, NoSQL, GraphQL
- **Other (visualization & etc):** HTML5, CSS3, JavaScript, Webassembly

Work experience

3 years as a NRNU MEPhI bachelor student

Nevod x IceCube

Lab assistant:
— working with IceCube big data
— optimizing muon energy reconstruction algorithms

Stack: python, numpy, scipy, matplotlib, ROOT

~1 year

platformaofd.ru

Junior Data Scientist:
— NLP: classification, clustering (short russian texts)
— BigData: Hive & Spark, big data ops

Stack: python, numpy, scipy, pandas, sklearn, spark, hive, git, docker

~1 year

PrivacyAudit / Undatify (Startup)

Data Scientist:
— NLP: classification, NER (multilingual texts, html)
— Ops: RESTful services, graph databases

Stack: python, numpy, sklearn, torch, transformers, deepspeed, dgraph, mlflow, git, docker

~1 year

Kaspersky Lab

Data Scientist:
— Deep Learning
— NLP: classification, embeddings, NER, relation extraction

Stack: python, numpy, sklearn, catboost, nltk, spacy, torch, hyperopt, transformers, fastai, mlflow, git, docker

~6 months

Lambda lab, HSE

ML Researcher:
— Generative models, high energy physics
— Neural ODEs, quantum computing
Our ACAT '21 poster | Our ACAT '22 paper
Stack: python, tensorflow, torch, torchdiffeq

Scientific interests & plans

TL/DR:
— deep learning, generative models, neural ODEs
— quantum theory, quantum computing, particle physics, high energy physics
— open data (media, social data, gov data, ...) analysis: anomaly detection, link prediction, time series, etc.

After my bachelor degree in experimental physics and working in the IceCube collaboration (we optimized the reconstruction methods of the muon flux energies in the IceCube neutrino observatory), I realized that data analysis methods (simple statistics) we used were rather poor, and wanted to go deeper — to Machine Learning and stuff.

I went to the Data Science industry then, working as a junior for a small company that analyses data from online cashboxes. There I learned basic ML and tried the first DL via keras.

Then I went to the PrivacyAudit startup, where we developed an e-mail classifier via BERT-like models, FastText embeddings and Muse embedding mapper. Also we experimented with deepspeed and relation extraction. Unfortunatelly, the startup was closed due to the pandemic, and I entered Kaspersky lab.

My motivation was not only to do machine learning, but to create services for some social good (information security in this case). Again, I worked with transformers and some tabular ML tasks. At the same time I entered HSE master's program on Data Science and started to do my scientific work in Lambda lab towards Hamiltonian learning: we parameterized a hamiltonian of different quantum systems via the neural ODE in order to train to reconstruct the quantum evolution for the given initial state and outer conditions. My second scientific work there is a fast simulation approach for NICA MPD: we reconstruct the detector output signal for the given event properties via the GAN. My part is trying new experimental architectures of this GAN which make it easier to train.

Currently I'm looking for a research position in **Machine Learning & Physics** (particle, astrophysics, quantum mechanics, material science), other natural sciences (Chemistry, Biology) are also ok.

Soft skills

— English (C1)
— Some experience of public talks, writing sci-pop articles

Disclaimer towards the Russian-Ukrainian war. While believing science and IT should be beyond the borders, I need to mention:

- *I do not support Vladimir Putin's policy after 2011, when the Bolotnaya protests happened.*
- *I've supported russian opposition leader Alexei Navalny in his presidential election campaign in 2018*
- *I donate to russian independent media like Meduza and "Dojd"*
- *When Russia started a war in Ukraine, I made some public statements:*
    - *— Signed the Petition Against the War*
    - *— Signed the Open Letter from Russian Scientists and Scientific Journalists against the war*
    - *— Signed the Open Letter from Russian IT community against the war*
- *The war affects me personally, as my wife is from Ukraine and her family stays in Kiev.*

Understanding the world's policy against Russian aggression, I encourage you to ***ban Russia, not Russians.***