

Yury Davydov

Data scientist, Data Analyst, Machine Learning Engineer

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PUBLICATIONS

1. **Sboev, Alexander, et al. "Modeling the Dynamics of Spiking Networks with Memristor-Based STDP to Solve Classification Tasks." *Mathematics* 9.24 (2021): 3237.**
 - Personal contribution: PPX synaptic plasticity model (approximation based on the experimental data).
 - Tools used: NumPy, NEST SNN simulator.
2. **Davydov, Yury, Wen-Hui Chen, and Yu-Chen Lin. "Supervised Object-Specific Distance Estimation from Monocular Images for Autonomous Driving." *Sensors* 22.22 (2022): 8846.**
 - Personal contribution: data preparation and cleaning, conceptualization, complete analysis pipeline.
 - Tools used: PyTorch, NumPy.

EXPERIENCE

NRC "Kurchatov Institute", Moscow — *Laboratory Assistant*

February 2019 - August 2022

- Responsibilities: data collection and preprocessing, building deep learning models and spiking neural networks, conducting experiments, writing papers based on research results.
- Main data science domains: NLP (Natural Language Processing), Computer Vision, Spiking Neural Networks.
- Major accomplishments: successful development of a human-to-robot interface (voice conversion into RDF), synaptic plasticity model for PPX memristor devices.

EDUCATION

Moscow State University, Faculty of Physics — *Bachelor's degree*

September 2016 - July 2020

Majors: laser physics, computational biophysics.

National Taipei University of Technology — *Master's degree*

September 2021 - PRESENT

Majors: control theory, deep learning (computer vision).

SKILLS

Python
NumPy
PyTorch
TensorFlow
Pandas
Data collection
Data cleaning
Model optimization
Model evaluation
Computational physics
Mathematical modeling
Statistics/probability

EXTRAS

2020: III International young scientists contest in the field of oil and gas "A glimpse into the future", Digital implementation nomination – special prize (in a team with Alexei Arkhipov, for the creation of a neural network capable of predicting failures during drilling process).

2020: Moscow State University: diploma with honors.

2021: Alexandrov scholarship for outstanding students in NRC "Kurchatov Institute".

LANGUAGES

Russian (native), English (IELTS – 8.0, 2021).