

# Yulia Yakovleva

## Machine Learning Engineer

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### Main skills

- Programming Python (PyTorch, TensorFlow, NumPy, Scikit-learn, Keras, huggingface, transformers, diffusers), C++ (Eigen), Git, Bash
- AI/ML Model optimization, Generative AI, Diffusion Models, LLMs, Deep Learning, Computer Vision, NLP
- Systems Linux, HPC, Docker, ROS

### Experience

- November 2024 – **Machine Learning Engineer**, *Creative Fabrica*, Amsterdam  
now
  - Accelerated text-to-font pipeline from minutes to seconds, enabling scalable user-facing applications.
  - Developed a fast, efficient pipeline for vector graphics analysis and modification.
  - Built a custom SOTA benchmarking pipeline for generative models to evaluate and compare image generation quality.
  - (Python, GenAI, Image generation, huggingface, diffusers, transformers, inference optimization, vector graphics generation)
- June 2024 – **Head of ML Research**, *AI Neko*, Remote/Amsterdam
- October 2024
  - Led short-term research on efficient LLM inference, benchmarking open-source tools (GGML, llama.cpp, transformers, quantization) and delivering prototypes in C++/Python.
- November 2022 – **Machine Learning Engineer**, *Stability.ai*, Remote/Amsterdam
- May 2024 I worked on the following projects:
  - Stable-Finetuning (Python, PyTorch, CUDA, diffusion models, HPC): Focused on preprocessing and training algorithm optimization, achieving multi-fold speedups while the size of model increased. Accelerated SAM to process large batches of images in less than 1 second Built a regulatory-compliant facial fine-tuning pipeline without facial keypoints detection. Migrated services across multiple generations of fine-tuned models and backends.
  - Stability models API (Python, PyTorch, CUDA, diffusion models, AWS, HPC): Similar effort but without direct involvement into algorithms development.
  - LLM-related project (Python, PyTorch, CUDA, LLMs, axolotl, HPC).
- March 2022 – **Machine learning engineer**, *Rainbow.ai*, Warsaw
- September 2022
  - Contributed to applying deep learning models for weather forecasting (Python, PyTorch, Weather RADAR data).
- November 2021 – **Machine learning engineer**, *Descriptor.ai*, Remote/Moscow
- February 2022
  - Delivered sentiment analysis models for voice data with strong performance (Python, NumPy, TensorFlow, Keras, Audio data).

- July 2021 – **Machine learning engineer**, *MediaZona*, Remote/Moscow
- October 2021 ○ AI Text Generation (NLP, Python, NumPy, TensorFlow, Keras, Transformers, GPT):  
Developed conditional text generation models ahead of mainstream adoption. My responsibilities included both engineering/coding and interaction with non-tech employees of MediaZona on translating their non-tech requirements into "tech language", finding the data and getting a feedback on text generators' work.
- March 2018 – **Software engineer**, *Yandex Self-Driving Cars*, Moscow
- May 2021 ○ Sensor diagnostics software (ROS, C++, Python, NumPy): I created data quality checking software modules for cameras and LiDARs.
- Traffic lights recognition software (ROS, C++, Python, NumPy, TensorFlow, Keras).
  - I worked on improvement of traffic lights recognition and tracking pipeline,
  - learning data mining, pre-processing and datasets preparation,
  - created, learned and deployed multiple iterations of deep neural networks, which are working now on hundreds of self-driving cars made by Yandex.
- October 2015 – **Robotics researcher/developer**, *Institute for Information Transmission Problems RAS (Kharkevich Institute)*, Moscow
- August 2017 (C++, Python, ROS, Eigen, Computer Vision, Kalman filters)
- June 2015 – **Junior web-developer**, *WETA Group*, Remote
- October 2015 Full-stack web-development
- July 2013 – **Junior control systems developer**, *Modern Signal Processing and Control Technologies R&D Laboratory*, Chelyabinsk
- June 2015

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## Publications & Talks

- 2019 **Myths about Self-Driving Cars**, *Presented at WTM Moscow*
- 2019 **Traffic Lights in Yandex Self-Driving Cars**, *Presented at Yandex Self-Driving Meetup 2019, PyLadies Moscow and PyLadies Kazan*
- 2020 **Data mining in Yandex Self-Driving Cars**, *Presented at Pytup Moscow*
- 2020 **Method of and system for determining traffic signal state**  
Artamonov, Kalyuzhny, Yakovleva
  - US Patent US20210201058A1, application at 2020.09.28, granted.
  - European Patent EP3842996A1, application at 2020.10.14, pending.
- 2023 **How does ChatGPT work?**, *Presented at Between Brackets podcast*
- 2023 **What's going on in AI world**, *Presented in Warsaw*

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## Education

- 2010–2015 **National Research South Ural State University**;  
Computer Technologies, Control and Radio Electronics Faculty;  
Automation and Control Department;  
MEng with honours.
- 2015–2017 **Moscow Institute of Physics and Technology (State University)**;  
Department of Innovation and High Technologies;  
Cognitive technologies sub-faculty;  
MSc in Computer Science.

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## Volunteering

- May 2020 – now **Technical volunteer (Backend & Machine Learning)**, *OVD-Info*, Remote  
OVD-Info is an independent human rights media project.
- Developed and maintained backend systems for information collection and analysis (SQL, Python and Django).
  - Delivered ad-hoc data analysis and built pipelines for online text data processing and monitoring (Python, NLP, LLMs, PyTorch).
- Jan 2021 – now **Technical volunteer**, *Memorial*, Remote  
Memorial is one of the oldest Russian human rights NGOs.
- Provided technical and administrative support for internal systems and documentation.

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## Pet projects

**rTerm**, *github.com/robolamp/rTerm*

Fake JS-based UNIX term for my personal page.

**Random three body problem bot**, *github.com/robolamp/3\_body\_problem\_bot*

A program which is simulating the behavior of random three body system multiple times and publishing animation of the most interesting one every 12 hours at Telegram channel.