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Machine Learning Engineer

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, CUDA, HPC, AWS, Docker, ROS

Experience

November 2024 – now
Machine Learning Engineer, *Creative Fabrica*, Amsterdam
- 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 – October 2024
Head of ML Research, *AI Neko*, Remote/Amsterdam
- 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 – May 2024
Machine Learning Engineer, *Stability.ai*, Remote/Amsterdam
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 – September 2022
Machine learning engineer, *Rainbow.ai*, Warsaw
- Contributed to applying deep learning models for weather forecasting (Python, PyTorch, Weather RADAR data).

November 2021 – February 2022
Machine learning engineer, *Descriptor.ai*, Remote/Moscow
- Delivered sentiment analysis models for voice data with strong performance (Python, NumPy, TensorFlow, Keras, Audio data).

July 2021 – October 2021 **Machine learning engineer**, *MediaZona*, Remote/Moscow

- 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 – May 2021 **Software engineer**, *Yandex Self-Driving Cars*, Moscow

- 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 – August 2017 **Robotics researcher/developer**, *Institute for Information Transmission Problems RAS (Kharkevich Institute)*, Moscow
(C++, Python, ROS, Eigen, Computer Vision, Kalman filters)

June 2015 – October 2015 **Junior web-developer**, *WETA Group*, Remote
Full-stack web-development

July 2013 – June 2015 **Junior control systems developer**, *Modern Signal Processing and Control Technologies R&D Laboratory*, Chelyabinsk

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 on a YouTube*

2023 **What's going on in AI world**, *Presented in Warsaw*

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.

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.

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.