VADIM TITKO

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ABOUT ME

As a Machine Learning Engineer, I specialize in building systems based on Generative AI, Computer Vision and Natural Language Processing. My expertise includes developing web services and deploying Machine Learning models on mobile devices.

EXPERIENCE

Revolut Mar 2024 - Present

Machine Learning Engineer

- Developed state-of-the-art OCR, segmentation and classification models. Built training pipelines for Google's Vertex AI using PyTorch. Optimized ML models inference using ONNX, torch.compile, batching, etc.
- Developed web services for documents parsing, airflow jobs, data collection and processing pipelines.
- Conducted coding and ML interviews.

AIBY Nov 2021 - Jan 2024

Machine Learning Engineer

- Developed computer vision algorithms based on Stable Diffusion, trained LoRAs and ControlNets. Built vid2vid solutions.
- Developed web services for Machine Learning models and set up CI/CD, Grafana logging, reverse proxy, and HTTPS. Deployed these services on AWS EC2 and Google Cloud. Deployed Computer Vision algorithms on both mobile devices and cloud services using CoreML, TFLite, ONNX, OpenVINO and AITemplate.
- Developed and trained state-of-the-art object detection, classification, and segmentation models, which were successfully integrated into the product. The integration of these models resulted in an increase in product metrics.

ITechArt Jan 2021 - Nov 2021

Machine Learning Engineer

- Implemented and trained Computer Vision algorithms for the classification and segmentation of 2D and 3D medical images, including CTs and MRIs. Trained algorithms for the segmentation of surgical instruments in videos of surgeries.
- Prepared Machine Learning pipelines using MLFlow, Docker, DVC, and PyTorch. Coordinated with doctors to develop new functionality.

APRO Software Jan 2020 - Jul 2021

Machine Learning Engineer

- Trained Deep Learning algorithms for image segmentation and deployed them on mobile devices using TFLite and CoreML.
- Developed APIs for ML models using Flask and Django frameworks and containerized them with Docker.

PROJECTS

Deblurring CoreML

https://github.com/Vadbeg/nafnet-coreml

Developed an image deblurring project using CoreML, which is based on the NAFNet model. Created a script for image pre- and post-processing as well as model inference.

Brain Tumor Segmentation

https://github.com/Vadbeg/brain-tumor-segmentation

Developed a customizable pipeline for training a tumor segmentation model based on MRI. Additionally, provided PyTorch weights and an ONNX conversion script. The models were trained using PyTorch-Lightning.

EDUCATION

Bachelor of Computer Science 2018 - 2022

Belarusian State University of Informatics and Radioelectronics, Department of AI

Explored classical approaches for building AI systems based on knowledge graphs, as well as machine learning and deep learning algorithms. Completed various coursework projects ranging from web applications to recommendation systems.

SKILLS

Programming languages	Python, Java;
Frameworks	numpy, pandas, diffusers, transformers, sklearn, matplotlib, seaborn, OpenCV PyTorch, PyTorch-Lightning, Keras, CoreML, ONNX, TFLite, AITemplate Django, Flask, FastAPI, sqlalchemy;
SQL	PostgreSQL, SQLite, MS SQL, MySQL;
Other	git, dvc, Docker, Linux, AWS, Azure, Google Cloud, Vertex AI, LaTeX;
Languages	English (proficient), Polish (proficient), Belarusian (native), Russian (native).