Arseniy Zemerov

Middle Computer Vision Engineer

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Education

National Research Nuclear Univercity "MEPhI" Moscow
Bachelor of Nuclear Physics and Technology *Sep. 2016 – Jul. 2021*

First Moscow State Medical University (Sechenov University) Moscow
Master of Nanomaterials and Biophotonics *Sep. 2021 – Jul. 2023*

Technical Skills

Frameworks/Libraries: PyTorch, PyTorch Lightining, OpenCV, Skimage, timm, pytrorch segmentation models, pytorch metrics, ONNX, numpy, pandas, matplotlib
Knowledge: Object detection, Key-point detection, Segmentation, DICOM/WSI image format, Model optimization technique, Image processing, Self supervision, Object Tracking
Developer Tools: Git, Docker, VS Code, PyCharm

Experience

Computer Vision Researcher Oct. 2022 – Present
ThirdOpintion.ai *Moscow*

- Work in the AI.Monitoring system development team of the patient monitoring system by video.
- Reduced the latency of the model by 40 times by optimizing models and the efficiency of the algorithm
- Implemented a template of a single format for training variable combinations of models, which reduced the estimated time of implementation in a new hospital from two weeks to four days
- Developed from scratch the business logic for the MVP of the company's new product and provided its support
- Engaged in the support and development of new product features

Assistant Professor Sep. 2022 – Present
Moscow State Medical University *Moscow*

- Conducting seminars and lectures on the subject of "AI in medicine"
- Participation in research

Undergraduate Research Assistant Oct. 2021 – Aug 2022
Moscow State Medical University *Moscow*

- Research and development of segmentation model for kidney cancer analysis

Python developer Apr. 2021 – Oct. 2021
Lumiprobe *Moscow*

- I was engaged in the development of a quality control system for oligonucleotides based on the image of electrophoresis results. The system was based on algorithmic methods to provide the ability to run on raspberry pi

Research and Projects

Colonoscopy tissue segmentation Mar. 2023 – Present

- Participation in the study of tissue segmentation as part of a scientific group
- Developed a full-stack descktop application using Streamlit for detection and grading of kidney cancer nuclei
- Two-stage cell detection and classification using stardist

Algorithm for search for similar cases in the database of histological images Jul. 2023 – Present

- Research and Development algorithm for comparison of the histological image with the results from the database using self-supervised ViT and MIL-attention model

Samsung Innovation Campus App 2022

- Project was created for interuniversity Samsung Innovation Campus competition. I won with this project
- Developed a full-stack descktop application using Streamlit for detection and grading of kidney cancer nuclei
- Two-stage cell detection and classification using stardist