Ruslan Musaev *AI Researcher | Data Science*

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Profile

Deep Learning Researcher with over 4 years of experience applying computer vision and NLP models for scalable perception and predictive analytics. Skilled in optimizing PyTorch and TensorFlow networks. Seeking mid-level researcher role collaborating with multidisciplinary AI teams to rapidly inject academic achievements into industry

Professional Experience

AI Research Engineer, *VisionLabs* 2021 – present

- Gained expertise in video analysis, re-identification, retrieval, and 3D reconstruction
- Achieved over 30% higher accuracy on key benchmark with millions of images by building a state-of-the-art video identification system
- Developed and executed unsupervised pretraining technique, improving ReID model performance by 20%
- Created reusable machine learning code and processes that reduced researcher setup time 3X and costs by 10%
- Optimized production models for 10X efficiency gains, tailored for diverse manufacturing-system constraints (ONNX, TensorRT, OpenVINO)
- Gained expertise in PyTorch, NumPy, TensorFlow, Pandas, PyTorch-Lightning, etc.

Computer Vision Researcher, *Intelligent Transport Laboratory MIPT* 2020 – 2021

- Published a paper titled "HPointLoc: Point-Based Indoor Place Recognition Using Synthetic RGB-D Images" at the International Conference on Neural Information Processing (ICONIP) 2022
- Created photorealistic HPointLoc dataset enabling thorough evaluation of localization algorithms
- Devised approach exceeded top methods by 5-15% across metrics like recall and match accuracy

Skills

Computer Vision
Image Classification, Object Detection, Segmentation, 3D reconstruction, SfM

Natural Language Processing
Text generation, Translation, Sentiment Analysis

Software Proficiency
Python, Git, Linux, AWS/GCP cloud infrastructure, C/C++

Language
English (B2), Russian/Ukrainian (C2)

Education

Masters, *Moscow Institute of Physics and Technology* 2021 – 2024
Machine Learning and Data Analysis

- Deep learning, computer vision, reinforcement learning, optimization and generative models like GANs, VAEs, and LLMs

Bachelor, *Moscow Institute of Physics and Technology* 2017 – 2021
Applied Mathematics and Physics

- Calculus, linear algebra, computer science, probability, numerical methods, and mathematical modeling

Publications

HPointLoc: Point-based Indoor Place Recognition using Synthetic RGB-D Images 2022

Yudin, D., Solomentsev, Y., Musaev, R., Staroverov, A., & Panov, A. I. (2022, November). HPointLoc: Point-Based Indoor Place Recognition Using Synthetic RGB-D Images. In International Conference on Neural Information Processing (pp. 471-484). Cham: Springer International Publishing.

Notable Contributions

Sentence-contexts generator for given keywords

- The project aims to address the challenge of creating meaningful sentence-contexts from limited input information

Neural machine translation

- The task was to implement a neural machine translation model using PyTorch and HuggingFace