

ANDRII POLUKHIN

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EXPERIENCE

Samba TV

Remote

Machine Learning Engineer

Jan 2022 - Present

- Trained video classification and object detection models for 350+ classes and reduced the neural network size by 30% and optimized architecture, using quantization and distillation.
- Led a team of 8 ML engineers and successfully managed three critical tasks: Image Deduplication, Synthetic Data Generation, and Pseudo-labeling.
- Conducted research to explore advanced model optimization methods and edge-device architectures, providing valuable insights for future enhancements in performance and resource utilization.

Data Science UA

Kyiv, Ukraine

Machine Learning Engineer

Jan 2022 - Present

- Pursued research in Artificial Intelligence, conducting lectures on the newest AI publications.
- Conducted webinars on ML technologies for a wide audience for charity purposes.
- Consulted AI businesses, leveraging the best AI methodologies to enhance their products.

Hillel IT School

Remote

Teacher of Machine Learning

Oct 2022 - Present

- Taught a wide range of Deep Learning areas, such as Computer Vision, NLP, and RL.
- Taught ML concepts, such as convolutional, recurrent, transformer layers, and generative models.
- Taught mathematics for ML, regression, dimensionality reduction, clustering, and decision trees.

Freelance

Remote

Artificial Intelligence Consultant

Sep 2022 - Present

- Architected Machine Learning pipelines for complex AI systems.
- Solved clients' problems with Deep Learning, Machine Learning methods.

Reface

Kyiv, Ukraine

Machine Learning Researcher

Dec 2020 - Dec 2021

- Increased the accuracy of the image classification model by 40%, compared with the baseline.
- Conducted research for the new trending machine learning applications, assisting the company managers.
- Streamlined data management processes, enhancing accessibility for machine learning engineers.

Infopulse

Kyiv, Ukraine

Data Scientist

Oct 2019 - Dec 2020

- Conducted data engineering tasks, increasing AI model accuracy by 24%.
- Calibrated surveillance cameras using Computer Vision algorithms, during a business trip to Japan.
- Developed data visualization pipelines, explaining the business to the top managers.

Samsung R&D Institute Ukraine

Kyiv, Ukraine

Data Scientist

Jan 2019 - Feb 2019

- Lead developer of a 7-person team, gave the management a presentation on the project.
- Developed a Voice Authentication system using GMM, achieving 90% accuracy for 100 users.

TECHNICAL SKILLS

Languages: Python, CUDA, C/C++
Frameworks: PyTorch, TensorFlow, TF Lite, Keras, ONNX, TensorRT, OpenVINO
Technologies: OpenCV, Lightning, AWS EC2, Databricks, MLflow, Docker
Background: Research, Data Science, Machine Learning, Deep Learning, Computer Vision, Edge Device Model Optimization (Pruning, Distillation, Quantization)
Concepts: Convolutional Neural Networks (CNNs), Transformer Models, Transfer Learning, Object Detection, Video Recognition, Instance Segmentation
Other: Edge Computing, Edge Device Deployment, Edge Device Performance Optimization, Low-Power Model Design, Resource-Constrained Computing

EDUCATION

Taras Shevchenko National University of Kyiv

Master of Mathematics and Computer Science

Kyiv, Ukraine
Sep 2021 - Jun 2023

- Specialized in Deep learning technologies in Computer Vision.
- Studied High-Performance Computing.

Taras Shevchenko National University of Kyiv

Bachelor of Mathematics and Computer Science

Kyiv, Ukraine
Sep 2017 - Jun 2021

- Studied Computer Vision, Probability Theory, Computer Statistics, and Data Analysis.
- Gained proficiency in Programming (Python, Java, C/C++), Algorithms and Data Structures, and Databases.

ACADEMIC PUBLICATIONS

- Polukhin et al. *Edge Intelligence Resource Consumption by UAV-based IR Object Detection* 2023
- Polukhin et al. *Object Detection for Rescue Operations by High-Altitude Infrared Thermal . . .* 2023

PROJECTS

- Blogs: [Medium](#), [Website](#), [Telegram](#).

HACKATHONS

- **CSC Hackathon 2023** 2023
Secured 5th place in LUN.UA hackathon, achieved 99.6 F1 Score using AI model.
- **AI Hackathon in Ukraine** 2023
Secured 3rd place in a hackathon by developing a voice-controlled generative AI interior design tool.
- **Reface Wild Wild Hack** 2021
Finalist in top 16 teams, utilized VQGAN + CLIP to generate visual representations from text.
- **Google Hash Code** 2019
Created a dynamic programming-based recommendation system at the hackathon with a 55% accuracy.

VOLUNTEERING

Projector Institute

Machine Learning Mentor

Kyiv, Ukraine
Sep 2022 - Present

- Assisted over 9 students in understanding complex machine learning and artificial intelligence concepts.
- Guided over 7 students on how to read, organize information, and conduct research in AI.
- Assisted over 10 ML Engineers in solving their AI-related problems.

10:11 Mentorship Program

Mentor

Kyiv, Ukraine
Jun 2022 - Present

- Mentored Ukrainian high school students on university selection and preparedness.
- Shared insights from my academic and professional background to guide students.

KOLO

Patron

Kyiv, Ukraine
Apr 2022 - Present

- Provided monetary support to Ukrainian defenders to assist with their expenses.