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Artem Makoyan

Languages: Python3, C++, C, Go
github.com/MakArtKar
codeforces.com/profile/MakArtKar
leetcode.com/MakArtKar

Education

Bachelor in Computer Science, GPA 8.68/10, *Higher School of Economics, Moscow, Russia* Sep 2019 — Jun 2024

Applied Mathematics and Information Science

- Algebra
- Algorithms and Data Structures
- Probability Theory and Statistics
- Discrete Mathematics
- Linear Algebra and Geometry
- Operating Systems
- Logic
- Matrix Computations
- Optimization in ML
- Calculus
- NLP

Master's Equivalent, *Yandex School of Data Analysis, Data Science, Russia* Sep 2020 — May 2022

- Machine Learning
- Deep Learning
- Deep Vision and Graphics
- Computer Vision
- 3D Computer Vision
- Natural Language Processing
- Generative Models
- Reinforcement Learning
- Bayes Methods in ML
- Python
- C++

Bachelor, Applied Computer Science, GPA 84.69/100, *Neapolis University of Pafos, Paphos, Cyprus* Jan 2023 — Jun 2024

Applied Computer Science

- Innovation and Entrepreneurship
- Software Project Management
- Technical Entrepreneurship
- Interest based communications
- Introduction to Business
- Principles of Cybersecurity
- Advanced Databases Concepts
- Advanced Computer Networks
- Distributed Systems

Technical Experience

Middle ML Engineer/ Geo services **Jun 2023 — Present**
Yandex *Python 3, PyTorch, Hydra*

→Automatic maps markup. Road and road elements segmentation from aerophotos.

Middle ML Engineer/ Computer Vision Platform **Jul 2022 — Jun 2023**
Sber Devices *Python 3, C++, PyTorch, Hydra, DVC, OpenCV, ONNX, torch_pruning*

→Background removal for video conferencing. Improved metrics (0.98 dice) and visual quality, 1.5x speed up after pruning.
→Pay card localization. Trained 700KB model for card segmentation. Developed C++ inference pipeline.

ML Developer intern / VR Team with V. Lempitsky **Jul 2021 — Oct 2021**
Yandex *Python 3, PyTorch, Tensorboard*

→VR scene quality improving by predicting human alpha mask. Researched papers and improved FBA Matting.

ML Research Intern / Mobile Authentication **Nov 2020 — June 2021**
Samsung R&D Department *Python 3, PyTorch, Bash, Numpy, Pandas, Sklearn, Tslearn*

→Worked on a ML pipeline for mobile phone authentication by user's motion patterns with $82.2\% \pm 9\%$ accuracy - paper.

Software Engineer Intern / Software performance engineering team **Aug 2020 — Oct 2020**
Huawei *C, Octave, Catch2*

→Worked on a framework for faster developing open-source 5G wireless library by developing a testing platform on C and Octave

Projects

Telegram LLM QA bot **Jun 2023 — Aug 2023**
→Developed tg bot to answer on questions from the chat context *Python 3, LangChain, HuggingFace, aiogram*

- Researched different LLM models, developed different types of LangChain pipeline (stuff, rerank, map reduce, refine) with them.

Automatic Detection of Means of Transportation on 3d Cargo Models **Dec 2021 — June 2022**
→Developed model for cloud segmentation with 0.95 IoU for cargo *Python 3, Pytorch, PyTorch3D*

- Calibrated cameras for cargo scanning, prepared data, implemented ESANet model

Automatic computer activity monitoring **Aug 2020 — Sep 2020**
→Developed Windows application allowing automatic employee performance monitoring and analysing *C++, GRPC, ProtoBuf*

- Implemented on C++ using grpc and protobuf for data transfer, access to information by WinAPI

Competitions

- **Top 8%** in Google Hash Code. **Top 50** in Google Kick Start. **Top 350 (top 0.8%)** in Google Code Jam Feb, May, June 2020
- Awards in All-Russian Olympiad: 33^{rd} place in **Informatics** and 8^{th} place in **Maths** over 20000 participants Apr 2018, 2019

Skills

Libraries Pytorch, Hydra, DVC, WandB, OpenCV, Sklearn, Numpy, Pandas, Scipy, ONNX, Matplotlib, Optuna
Tools SQL, Linux, Bash, Git, LaTeX, MarkDown