



Щербина Михаил Александрович

Male, 20 years, born on 20 September 2002

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Another site: <http://t.me/mishinlearning>

Reside in: Moscow, metro station Dinamo

Citizenship: Russia, work permit at: Russia

Willing to relocate: Portugal, USA, Kazakhstan, Latvia, Georgia, ready for rare business trips

Desired position and salary

Machine Learning Engineer

Specializations:

- Programmer, developer
- System engineer
- Data scientist

Employment: full time, part time, work placement

Work schedule: full day, shift schedule, flexible schedule, remote working, rotation based work

Desired travel time to work: any

Work experience — 3 years 2 months

March 2022 — till
now
1 year 7 months

АйТи групп 42

Moscow, itgroup42.ru/

IT, System Integration, Internet

- Software Development

Computer Vision Engineer

1. Speeding up the inference pipeline (5x compared to pytorch baseline)

C++ 20, STL, TBB, TensorRT, OpenCV, cv::cuda, raw cuda kernels, edge devices.

2. Casual Research: monitoring paperswithcode / telegram / arxiv / journals, testing and adapting models from newly released SOTA

3. Model Postprocessing

Pruning, Quantization, QAT, Mixed Precision

4. MLOPS, reproducible pipelines:

DVC, training, model version control, automatic metric reports, packaging the aforementioned in docker pipelines.

Team Work: mentoring junior devs, writing reports, task tracking

Problems I've successfully solved

1. Object Detection (Yolov4, YoloX, YoloV7)
2. Head Pose Estimation (HopeNet, etc.)
3. Person Reidentification (Pytorch_reid_baseline, Fast-Reid)
4. Skeletal Pose Estimation (MMPose, TopDown models, YoloV7)
5. Real Time Segmentation (Instance, Panoptic) (DeepLab, YoloV7)

6. 3D Computer Vision: Photogrammetric Pose Estimation, Camera Rig Calibration, SLAM (Colmap, Open3D, NERFs, VINS-Mono, ROS)
7. Multimodal Learning - unified YOLOv7 with Instance Segmentation and Skeletal Pose Estimation with keypoints

I am the primary Machine Learning / Computer Vision Engineer at this startup and had to build MLOps pipeline and custom C++ Inference Engine from scratch, all by myself.

December 2021
— April 2022
5 months

GosNIAS

www.gosniias.ru/

Educational Institutions

- Research, Scientific, Academic Activity

Deep Learning Researcher

- R&D: Reading papers, writing papers, reports
- Development and testing, containers, writing docs for models
- Writing and putting pipelines in docker
- CI/CD with tests
- General python programming

Things I work with:

I write in: Pytorch, Pytorch Lightning

I have also used: jax

For experiment tracking: wandb.ai

For MLOPS: CleanML, snakemake

For configs: Hydra

For RL: ClearRL, RLLib (meh), SampleFactory, mctx

For CV: Segmentation-Models-Pytorch, MMDetection, Nvidia's GAN repos

Areas I have so far worked with:

Computer vision - Segmentation, synthetic image synthesis, image restoration with GANs

RL - Vehicle Routing, Planning (PPO, A3C, MuZero)

MLOPS - integrating CleanML and snakemake into existing projects

September 2018
— December
2019
1 year 4 months

Индивидуальное предпринимательство / частная практика / фриланс

Open Source Developer

Worked on RecNN (<https://github.com/awarebayes/RecNN>) in high school, click the link to find out more. It's the first open source library to implement Reinforcement Learning methods for recommender systems. I have also read a Google Research paper on a recommendation algorithm in YouTube and implemented it completely from scratch.

Education

Incomplete higher

2024

МГТУ им Баумана

Информатики и систем управления, ИУ7 - Программная Инженерия

Professional development, courses

2018

HSE

Coursera, HSE Deep Learning Course

2017

МИПТ

МИПТ, Deep Learning School (2 семестра)

Key skills

Languages

English — Native

Russian — C2 — Proficiency

Skills

Deep Learning

Python

PyTorch

Английский язык

C++

RecSys

Computer Vision

Reinforcement Learning

Research

Cuda

Further information

About me

Greetings!

I have a short lived experience working as a researcher in GosNIIAS, which is the top government institute for applied AI Research.

Shortly after, I was offered a Middle+/Senior- position in a Computer Vision startup, which I'd been working ever since.

I also have a pet project (on github, pinned) where I built CUDA powered software rasterizer as a pet project to show off my GPU programming skills.