GEORGE FEDOSEEV

Deep Learning Engineer

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Experience

Senior Machine Learning Engineer

at Giant.AI (Campbell, CA, remote), robotics startup

May 2020 – present

Department: Reinforcement Learning team
Tasks: offline reinforcement learning, sim2real, reward learning, encoder representation learning, real robot inference pipelines, active learning.
Achievements:

- Contributed to a successful approach for RL models training directly on a real robot for fast (within 1 workday) deployment demos on customer facilities.
- Optimized training of control models, reducing experience data requirements from the order of 10^5 to 10^3 episodes.
- Designed and developed an active learning framework for training computer vision models which allowed to reduce CV model iteration time from days to a couple of hours.

Senior Machine Learning R&D Engineer

at Huawei (Saint-Petersburg, Russia)

Sep 2019 – May 2020

Department: Voice Assistant
Tasks: speech recognition, intent classification and named entity recognition from text messages, active learning for NLP, models optimization for inference in production.
Achievements:

- Delivered NLP production models for voice assistant optimizing model size from gigabytes to under 100MB to fit on mobile devices without performance loss.
- Contributed to the development of an NLP active learning system for optimized intent and entity annotation.
- Designed and implemented a new architecture for speech recognition fusing modern NLP and ASR approaches.
- Led a team of two ML engineers.

Software Engineer

at EventAgrate Software and Technologies (Dubai, UAE)

Feb 2017 – Jan 2019

Worked on 30+ short-term interactive experience projects for exhibitions and shows.

- Connecting various hardware into exciting installations: VR, AR, touch screen apps, arduinos, lidars, kinect, OptiTrack motion tracking.
- Developing LAN multiplayer apps, games in VR and on touch screens.
- R&D in sensing with RFID trackers and lidars, attaching AR applications to real-world keypoints and point clouds.

Education

Sep 2013 – Jun 2018

Applied Math and Computer Science

at Saint-Petersburg State University

Thesis: Development of speech recognition system for indexing and searching in a big collection of mediafiles.

Publications

- *Iakushkin, O., Fedoseev, G., Shaleva, A., Degtyarev, A., & Sedova, O. (2018, September). Russian-language speech recognition system based on deepspeech. In Proceedings of the VIII International Conference on Distributed Computing and Grid-technologies in Science and Education (GRID 2018).*
- *Fedoseev, G., et al. "A continuous integration system for MPD Root: Deployment and setup in GitLab." Saint-Petersburg State University (2016).*

Tools

python, numpy, torch, pandas, jupyter, plotly, FastAPI + React, multi-processing, RPC, docker, git, linux, AWS, sql/nosql databases

Research interests

- reinforcement learning
- computer vision
- generative models
- representation abstraction and compression
- concept learning and world modeling
- neural control in robotics

Other

- Kaggle Competitions Expert Kaggle/GeorgeFedoseev
- Developed iOS productivity app 3 Things to Do
- Co-Developed iOS hair-coloring app HairBrush