Ivan Kharitonov

Moscow
1 Nov 1991
ipkharitonov@gmail.com
github.com/neer201
LinkedIn
+7(916)785-71-11

I am interested in automotive and robotics areas and looking for a software developer / research engineer position in the self-driving industry.

Education

2008 – 2014	**MS + BS** (electrical engineering) at **Bauman Moscow State Technical University**
2016	Data Mining in Action course (open ML course at MIPT)
2017 – 2019	**Yandex School of Data Analysis** – Computer Science track
2019, 2021	Summer school "Control, Information, Optimization"
2020	Waymo workshop for FSG Academy - certificate
2021	Third HSE-Yandex autumn school on generative models - info

Teaching

spring 2019, 2020, 2021
Yandex DA school

Teaching assistant for the course Practical RL Provided help and read seminars with hw checkups in HSE and YSDA

Professional Experience

Aug 2020 – now
Sberbank
Sberautotech

Software engineer - perception team

- Implemented models for point-cloud based object detection task.

Software engineer - prediction team

- Multi-object tracking – solve object tracking problem using random finite set statistics. Developed python library for tracking scenarious and multi-object tracking algorithms.

Using: numpy, scipy, mpl, torch-torchscript, hydra, ROS2, Docker, Python, gitlab-CI

Jul 2015 – Nov 2017
FSUE NAMI
Central Scientific Research Automotive Institute – Information and Intelligent Systems Center

Research engineer at self-driving department (Shuttle project)

- Implemented perception models for object detection task – collecting/generating training data, optimizing the model design, model implementation (Caffe DL framework) and evaluation.

Software developer (Control systems) at transmission control systems department (Aurus project)

- System identification – created plant models for some vehicle mechanism, such that gearbox clutch hydraulic actuator.
- Implemented basic software layer for automotive microcontroller (C, Simulink, Altium Designer) from scratch.
- Designed and implemented a controller for hydraulic actuators with further improving quality metrics and decreasing system setting time.
- Decreased calibration time by developing automated calibration procedure of control system parameters and tested control algorithms on the testbench.

Using: MATLAB, Simulink, Vector CANAPE

Mar 2013 – Aug 2015 **BMSTU** **Bauman Moscow State Technical University**	Hardware and telemetry engineer on an FSAE team. Participated in international engineering competition FSAE as a member of the university racing team. Responsibilities: hardware and software development, sponsorship and partnership management. Achievements: ◦ Released projects: MS thesis – using RTK navigation for telemetry, F1-like steering wheel with integrated LCD, wireless telemetry module, signals expansion module by reverse-engineering the race ECU CANbus protocol. ◦ Received positive feedback from judges on the design event with good score. ◦ Established sponsorship contracts with several companies. As a result, we were granted new equipment.
Feb 2012 – Jul 2013 **Crypto LLC** **Systems integrator**	Engineer at System Integration Department. ◦ Adapted the product to the customer by adding fault tolerance setup. ◦ Integrated the monitoring tool (Zabbix) with a data management system.
May 2009 – Feb 2012 **PJSC VimpelCom**	Test Engineer. The Vimpelcom's pilot project - TV provider for mobile phones. ◦ Monitoring of the head and base stations (DVB-H) and 2nd level technical support.

Generall Skills

Programming	Python (numpy, scipy, pytorch, jax, pytest, poetry, nox)
	MATLAB, C++
Base tools	git, ssh, unix, latex , Docker, dvc
Other tools	CI/CD (github actions), ROS2, xpra
Engineering tools	Altium Designer, Solidworks, LabView, Simulink, Vector software (CANape)
Speaking	Russian – Native, English – B2

Activities

Formula Student	design judge FSAE AI UK 2020
	design judge bay chief Formula Student Russia 2020
	design judge (driverless - perception) Formula Student Germany 2021
	design judge bay chief Formula Student Russia 2021
Motorsport	Flag Marshal 2020 Formula One Sochi Gran Prix , 2020 Russian Circuit Racing Series
	Scrutineering, data analysis 2021 Russian Circuit Racing Series
	Scrutineering 2021 Russian Hot Hatch Club Championship
	Scrutineering F2/F3 2021 Formula One Sochi Gran Prix
Sports	road bicycle racing, boxing
Other activities	organized reading club about robotics and self-driving at BMSTU