Oh, hello there ✋ Daniil is here

I am a robotics engineer 🤖

I'm interested in robotics, artificial intelligence, and how to convert technology into a product

code: github.com/Sarrasor
telegram: @Sarrasor
email: sarrasorwork@gmail.com
linkedin: linkedin.com/in/daniil-burakov

Tech stack

Experience

Machine Learning Lead @ Verne verne

Jun 2024 - Present

We are developing a self-driving taxi service at Verne. My areas of responsibility include:

- Research and implementation of reinforcement learning-based algorithms for our in-house fleet distribution system
- Supervision of the in-vehicle AI team

Senior Robotics Engineer @ Tech Solutions tech solutions

Nov 2022 - April 2024

We created a prototype of a car-sized autonomous delivery platform and a teleoperation platform for multiple types of vehicles. Video. My contribution:

- Selected sensor sets for all platforms and designed the software architecture
- Implemented functional safety framework and telemetry pipeline for safety case evidence collection
- Hacked an e-golf to make it controllable via joystick
- Implemented STM32 drivers for electric power steering module and ultrasonic sensors. Designed and implemented the "guardian" safety module
- Implemented a pipeline to test our teleoperation platform in simulation
- Helped with video streaming pipeline implementation

Team lead of the motion planning team @ Ozon Technologies

Jan 2022 - Jul 2022

I have led a motion planning team:

- The team has launched a self-driving truck on public roads. Video
- Created a technology development roadmap for the motion planning team
- Implemented motion planning testing framework
- Built knowledge base for the motion planning team
- Improved team communication, task management, and code review processes
- Hired four members for the motion planning and control teams

Junior C++ developer @ Ozon Technologies

Jul 2021 - Jan 2022

Worked on self-driving car's motion planning module:

- Proposed and implemented novel behavior selection architecture based on hierarchical behavior state machines
- Improved existing path and speed planning algorithms
- Improved lane following and lane change behaviors
- Implemented multiple trajectory evaluation metrics
- Implemented data collection and visualization framework

Research fellow @ Innopolis Robotics lab

Oct 2020 - Jul 2021

Worked on self-driving car behavior planning for my Bachelor's thesis and helped the self-driving team to improve the motion planning capabilities of the autonomous vehicle:

- Tuned the routing module to make better routes
- Improved static vehicle side-passing capabilities and lane-changing logic
- Resolved multiple incidents related to trajectory planning and routing
- Documented several legacy algorithms

Machine learning engineer @ Inference Technologies

Jul 2020 - Oct 2020

This was a summer internship with an extension. I have built an automatic pipeline for machine learning model training. After that, we have applied it for object segmentation and classification tasks:

- Proposed the architecture for the pipeline
- Implemented an MVP of the proposed pipeline
- Implemented multiple data-denoising methods
- Tinkered with several SOTA classification, segmentation, and detection models from TensorFlow Zoo. The proposed model was used in the production

Education

Innopolis University

Bachelor's Degree
2018-2022

Robotics track

Personal Info

Like going to the gym, playing guitar, and drinking tea with mint while reading

My daily insights channel

Languages

Russian: Native
English: C1