



Yakov Dementyev

ROBOTICS ENGINEER · BACKEND ENGINEER · DATA SCIENTIST

Innopolis, Republic of Tatarstan, Russia

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Education

Innopolis University

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Innopolis, Russia

August 2021 - May 2025

- Entered Robotics track
- Currently writing thesis on topic "Visual stimuli reconstruction from human brain EEG data via Spiking Neural Networks"

Skills

Back-end FastAPI, Django, REST API, PostgreSQL

Programming Python, C/C++, LaTeX, Julia

Robotics Control Theory, Microcontrollers, CAD (SiemensNX), Autonomous mobile robots, Computer vision, ROS1/ROS2

Machine Learning Pytorch, Tensorflow, Computer vision, NLP, LLM, Classical algorithms, Deep learning

Languages Russian, English, Swedish

Soft skills Literature analysis, Critical thinking, Self-reflection

Experience

Invian

JUNIOR BACKEND DEVELOPER

Innopolis, Russia

April 2024 - June 2024

- Designing APIs to get information about traffic on the roads.
- Services' architecture followed TDD.
- Stack used: FastAPI, InfluxDB

Extracurricular Activity

Hackathon "Цифровой прорыв. Сезон: Искусственный интеллект (ПФО)"

MACHINE LEARNING ENGINEER

Perm, Russia

October 2023

- Finding a solution to the problem of detecting and tracking solid waste items on a conveyor belt.
- To solve problem of detection we used YOLOv8 model with modifications to be able to work with multispectral data.
- Managed the team within machine learning and data processing related tasks.
- To solve problem of tracking we used modified DeepSort algorithm.

Hackathon VTB MoreTECH 5.0

BACKEND ENGINEER

Online

October 2023

- Displaying VTB Bank office data for customers to make it easier to find the most suitable office in terms of location and time.
- Our team has chosen Flutter for mobile app and FastAPI for backend service.
- Integrated LWCC library with RabbitMQ for crowd counting inside bank offices to track occupancy.

Hackathon "Цифровой прорыв. Сезон: Искусственный интеллект (Международный)"

MACHINE LEARNING ENGINEER

Online

November 2023

- Solve problem of detecting infrastructure facilities on satellite data.
- Managed the team within machine learning and data processing related tasks.
- Studied the literature related to the subject matter, developed test models beyond simple fine-tuning of models
- Problem was solved using Unet model.

Hackathon IT Inno Hack

MACHINE LEARNING ENGINEER

Online

September 2024

- Record Linkage problem
- The task was to merge records about person data from three databases with different fields with corrupted data.
- The main problem that we had to analyse 11 million records in 20 minutes.
- Studied the literature related to the subject matter.
- As a solution we used Levenshtein distance and Expectation/Conditional maximization classifier.

Наскathon ”Цифровой прорыв. Сезон: Искусственный интеллект (ПФО)”

Nizhniy Novgorod, Russia

MACHINE LEARNING ENGINEER

October 2024

- Solve problem of detecting flooded areas on multispectral images from satellites and find infrastructure facilities that are flooded.
- After studying related papers found a model architecture that will perfectly fit our task.
- As a solution we trained GAN model that uses Unet model as a generator.

Honors & Awards

2023 **2nd Place**, Hackathon ”Цифровой прорыв. Сезон: Искусственный интеллект (ПФО)”

Perm, Russia

2023 **Finalists**, Hackathon VTB MoreTECH 5.0

Online

2024 **Finalists**, Hackathon IT Inno Hack

Online

Certificates

2020 **Honors student**, Yandex Lyceum