

Artyom Tuzov

ML Engineer

a.tuzov.work@mail.ru | +7 987 220-16-39 | github.com/artiomzifir | t.me/artiomzifir

Summary

I work in machine learning and robotics and at the intersection of the two. I take applied ML tasks end to end: from data and experiments to a working service handed over to a product team. Topics: robotics, computer vision, agentic systems, NLP, RAG and search systems. Stack: Python, C++, PyTorch.

Education

Innopolis University

Sept 2023 – June 2027

BSc 3+1, Data Science and AI, robotics track. GPA 4.83 / 5.0, thesis in progress

Experience

MWS RnD

June 2026 – present

Research Engineer, internship, full-time, hybrid

- Reworked hybrid search in a live project: fusion of the lexical and vector parts, a reranker, an eval loop on RAGBench over recall@k, MRR@10 and nDCG@10
- Full-cycle applied research: from picking a topic and reproducing published results to a demo handed over to an internal owner
- Domains: LLM, NLP, RAG, search systems, agentic systems

Innopolis University

July 2026 – Aug 2026

Instructor, Professional Development Course, contract, on-site

- Built the materials for a 72-hour course "AI Systems Specialist" from scratch for 20 students: applied Python and data work, generative models, fine-tuning and services on top of them
- Taught on site and over video, ran the final assessment

Innopolis University

Sept 2025 – June 2026

Robotics Software Engineer, half-time staff and project contracts, on-site

- **LLM swarm**: coordination of a 20 robot swarm on ROS 2 Humble, a MAPF planner and Nav2 driven by BehaviorTree. My part: the upper control layer and the harness around the LLM advisory channels, test scenarios and model benchmarking
- **PCB assembly inspection**: pcb_inspector ROS2 node: component detection and geometry report against a baseline; 12-class dataset, YOLO11s up to mAP50 0.964 at 15.1 ms on RTX 3050m
- **Unitree A1 robot dog**: ROS2 perception pipeline: YOLO11 pose via ONNX Runtime CUDA, IoU tracking, tuned for Jetson Orin Nano 4GB up to 15 FPS end-to-end

Yandex Cloud

Dec 2025 – Mar 2026

ML Engineer, contract, remote

- Built an image classification service trained on soft labels: dataset assembly and balancing, CNN backbone benchmark, release. The service shipped to production
- Worked with noisy soft labels on a review scoring task: hunted labelling anomalies and kept QWK under control under heavy class imbalance

Awards

1st place, Russian Championship in Robotics Programming

Dec 2025

- Russian Federation of Sport Programming. Finals: five applied automation tasks on Promobot M Edu manipulators, 13 teams from 8 regions

2nd place, Tenderhack

Mar 2026

- Matching comparable goods for initial procurement price estimation: BM25, embeddings, ranking

Projects

ViKi

May 2026 – present

- Diploma research project: a vision-to-kinematics pipeline for imitation learning on a robot manipulator
- Multi-camera RGB-D capture of demonstrations, pose estimation and retargeting onto robot kinematics

Cinematic Navigation from 3D Gaussian Splatting

Mar 2026

- GPU pipeline for flying through a 3DGS scene: two camera planners, YOLO detection back-projected into world coordinates, revisit pass

Leadership

- **Innopolis Robotics Society**, co-founder of a student robotics community: we put teams together for hackathons and championships, run projects and mentor first-year students
- Young && Yandex ambassador, top 60 out of 7000+ applications; organised an internal hackathon for 70+ participants

Skills

Robotics / CV: ROS2, Nav2, BehaviorTree, Gazebo, MuJoCo, Stage, URDF, OpenCV, YOLO, ONNX Runtime, Jetson, CUDA

ML / NLP: PyTorch, LLM, VLM, RAG, hybrid search, embeddings, ranking, fine-tuning

Systems & Data: Python, C++, Linux, Bash, Docker, Git, NumPy, Pandas, scikit-learn

Languages: Russian, English