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Ilia Nechaev

CV

Interest

Robotics, computer vision, system programming, embedded development, ML/DL deployment on edge devices

Education

2020 - 2024 **Bachelor**, *SPbU*, Saint-Petersburg, *Faculty of Mathematics and Computer Science*
Mathematics, algorithms, data science

2022 - 2024 **Bachelor**, *UCLan Cyprus*, Pyla, *School of Science*
Computing

Experience

May 2024 - present **JetBrains**, *Research and educational assistant*

- Robotics development (autonomous driving, embedded) - redesigned Duckiebot autonomous driving stack to ROS2
- Neural networks development for computer vision - developed new lane marking recognition stack for Duckiebots (with publication)
- Neural networks deployment on edge devices - created utility for benchmarking Neural networks across Edge TPU, edge GPU and CPU
- Teaching university courses - developed from scratch and taught "Programming fundamentals with C and Linux" and "Robotics and CV" courses; taught "Operating systems" course
- Organizing bootcamp - helped in organization and conducting bootcamp - JASS

September 2022 - May 2024 **Ice measuring system**, *Development intern*

- Development utility for generation synthetic data for adjusting computer vision algorithms.
- Development machine learning algorithms for detecting the width of the ice channel left by icebreaker based on camera frames

February 2023 - June 2023 **Veeroute**, *Development intern*

- Development of combinatorial optimisation engine
- Creating tests and benchmarks

Languages

Russian Native

English B2

Skills

Legend

■□□□□	basic knowledge
■■□□□	intermediate knowledge with some project experience
■■■□□	extensive project experience
■■■■□	deepened expert knowledge
■■■■■	expert / specialist

	Level	Skill	Years	Comments
Programming languages:	■■■■□	C	4	*I teach C in my current position. Applying it in just "Programming fundamentals" course as well as "Operating systems" and "Robotics" courses. Used it with OpenCL for GPU computations*
	■■■□□	C++	4	*I use C++ in my robotics development. The most recent work project was: development of hardware simulator - utility to emulate robotics sensors and actuators*
	■■■□□	Python	3	*Used a lot for ML/DL and ice cover generation applications. Worked with Pandas, NumPy, MatPlotLib, SciPy, Sklearn, CatBoost, XGBoost, PyTorch libraries*
	■■□□□	Kotlin	1	*Used in a few pet projects and JetBrains hackathon 2025*
	■□□□□	Rust	1	*There was a course at the university. Used in a few pet projects, including "Classroom-ToSheetsIntegration"*
OS and tools:	■■■■□	Linux	5	*I use Linux (Ubuntu) as my main OS in addition I teach Linux at university. Configured and administrated a few small servers in laboratory*
	■■■■□	Make & CMake	4	*Using them on a daily basis as main build systems for both teaching and development*
	■■■■□	Docker & Compose	3	*Using them everyday for educational purposes (autotests) and robotics (almost all robotics deployments are made via customized docker images).*
Other:	■■■□□	Computer vision	2	*Used at JetBrains and during the icebreaker project. Also both of my thesis were related to computer vision*
	■■□□□	Machine learning	2	*There were 7 modules of ML/DL at the SPbU. I have experience at developing ML/DL algorithms, data preprocessing and models deployment. Field of interest: computer vision*