Fedor Deviatkin

Mechatronic Systems Engineer

25 years old · Balashikha, Moscow Region, Russia

About

Mechatronic systems engineer and PhD student in "Robots, Mechatronics and Robotic Systems". I specialize in building hardware-software robotic complexes — from low-level electronics, drives and sensors up to control systems and machine vision. I program industrial manipulators (Fanuc, KUKA), develop high-level control on ROS 2 / C++ / Python, work with sensors (depth cameras, 2D lidars, encoders), and apply control theory and Petri-net methods. I combine engineering practice with research and teaching.

Contacts

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Telegram

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I'm afraid I don't pick up calls from unknown numbers — please email or message me and I'll be sure to reply.

Skills

Programming: Python, C/C++, Java, ROS 2, MoveIt, Docker, Git, Linux, Bash, SSH, SQL, MySQL

Robotics & CAD: RoboDK, SprutCAM, Gazebo, CoppeliaSim, Webots, Autodesk Inventor, KOMPAS-3D, Altium Designer, Eagle CAD, CNC machines, Protege

Engineering & Analysis: Control Theory, MATLAB / Simulink, Mathcad, Petri Nets, Machine Vision (OpenCV), ESKD standards, Design engineering

Experience

MSTU STANKIN — Teaching Assistant, Dept. of Robotics & Mechatronics (2026 — present)

- Teaching the courses "Representation of Curves and Surfaces in Forming Technologies" and "Control Theory".
- Working in the department lab: preparing and supervising lab assignments.

MSTU STANKIN — Design Engineer (April 2023 — present)

- Development of hardware-software robotic complexes: robots, control programs, drawings and documentation.
- Control programs for a Fanuc manipulator with waterjet metal cutting: derived toolpaths and machined surfaces from Inventor part models, generated the control program via the RoboDK post-processor, positioned parts and controlled the cutting process.
- High-level control of a pipe-inspection robot on ROS + Gazebo: driving actuators and processing sensor data (depth camera, video camera, 2D rangefinder, encoders).
- 3D milling with a KUKA manipulator: designed robotic cells and the machining process in SprutCAM, set up tooling, generated control programs, ran and monitored the process.

MSTU STANKIN — Instructor, continuing professional education (CPE) programs (2024 — 2025)

- Developed and taught the courses "Programming Autonomous Logistics Robots (AMR)" (KUKA, 40 academic hours) and "AMR Maintenance and Service" (16 academic hours): navigation and SLAM, integrating AMRs into logistics, diagnostics and repair of electrical and mechanical systems.
- Authored a ROS 2 course (23 sessions: nodes, topics, services, actions, launch files, publishers/subscribers in C++/Python, custom interfaces, pluginlib plugins) and integrated it into an extended "Linux/Docker + ROS 2 + URDF + Gazebo" program (44 academic hours, 2 weeks).
- Led a hands-on robotics module: manipulator simulation in Webots (YouBot, AUBO), SLAM navigation, finite-state machines and Petri nets for the logical control layer, running manipulator control software and G-code parsing.
- Hands-on sessions on programming an industrial Fanuc robot (manual and program control, motion commands, variables and loops); occasionally covered the lecture portion of the course as well.

Nanjing Vocational Institute of Transport Technology (南京交通职业技术学院), Nanjing, China — Instructor (business trip) (May 10 — 25, 2026)

- Teaching students control theory and electric-drive control. Classes were taught in English.

Nanjing Vocational Institute of Transport Technology (南京交通职业技术学院), Nanjing, China — Instructor (business trip) (November 6 — December 6, 2025)

- Teaching students control theory, electric-drive control and sensors. Classes were taught in English.

CKTR LLC — Software Engineer (December 2022 — present)

- Ontological knowledge bases of plant diseases in Protege, a management shell in Python 3, integration with a leaf-recognition system.
- Tool auto-calibration system for a manipulator using a video camera: computing the tool center point (TCP) from the frames of the robot's mechanical interface link.

REC "Composites of Russia" — Technician (May 2021 — March 2022)

- Software for computing the weldability of pipeline steels from research data.
- Trajectory-planning programs for a manipulator.

Bauman Moscow State Technical University — Intern (September 2020 — June 2022)

- Development of manipulator drives and mechanisms: rotary column, trunk and gripper rotation, scissor lift.
- Control device for a power channel up to 600 V driven by a 3.3 V microcontroller.
- Python script for simulating linear automatic control systems.

Education

- PhD studies, spec. 2.5.4 "Robots, Mechatronics and Robotic Systems" — Bauman Moscow State Technical University (present)
- Master's (with honours), "Mechatronics and Robotics" — Bauman Moscow State Technical University (2024)
- Professional development: "Operation of the AxiOMA Control CNC system" (advanced course, 60 h) — MSTU STANKIN (2023)

Languages

- Russian — native
- English — B2 — upper-intermediate

Publications

- Deviatkin F.V., Arabadzhiev D.I., Shereuzhev M.A., Dyshekov A.I. Control of a robotic complex in a stochastic uncertain dynamic environment using Petri nets // Izvestia KBSC RAS. 2026. Vol. 28, No. 1. P. 25–38. DOI: 10.35330/1991-6639-2026-28-1-25-38.
- Shereuzhev M.A., Deviatkin F.V., Arabadzhiev D.I., Dyshekov A.I., Ushakova M.A. Hierarchical control of a robotic complex based on colored Petri nets and Bayesian filtering under uncertainty // Izvestia VolgGTU. 2026. No. 4(311). P. 68–76. DOI: 10.35211/1990-5297-2026-4-311-68-76.
- Ushakov A.E., Stebulyanin M.M., Shereuzhev M.A., Deviatkin F.V. Heading-control system for an autonomous vehicle based on reinforcement learning // Izvestia KBSC RAS. 2025. Vol. 27, No. 3. P. 39–54. DOI: 10.35330/1991-6639-2025-27-3-39-54.
- Pryanichnikov V.E., Ushakov A.E., Deviatkin F.V., Ushakova M.A. Robot-manipulator tool calibration using a reference plane and a video camera // 36th Int. Conf. "Extreme Robotics". P. 257.
- Arabadzhiev D.I., Deviatkin F.V., Dyshekov A.I., Shereuzhev M.A., Fernandu M.Zh. Analysis of function and task allocation between collaborative robots and a human in quadcopter assembly.
- Smirnov I.G., Dyshekov A.I., Deviatkin F.V. Operation algorithm of an autonomous robotic complex for weed monitoring // Electrotechnologies and Electrical Equipment in the Agro-Industrial Complex. 2024. Vol. 71, No. 1. P. 71–75. DOI: 10.22314/2658-4859-2024-71-1-71-75.
- Shereuzhev M.A., Deviatkin F.V., Arabadzhiev D.I. Simulation of group control of agricultural robots using finite-state machines and ontologies // Izvestia KBSC RAS. 2023. No. 6(116). P. 247–263. DOI: 10.35330/1991-6639-2023-6-116-247-263.
- Deviatkin F.V., Vinokurov P.G. Problems of sociocultural communication in the modern world // Polytechnic Youth Journal. 2019. No. 04. DOI: 10.18698/2541-8009-2019-04-461.

Registered Software

- **RU2023681924** — Software for autonomous-motion control of a robot for inspection and delivery of technological impact to the inner surface of pipes in oil & gas infrastructure (C++). Rights holder — MSTU STANKIN.
- **RU2024688718** — Software for a navigation system of a tracked mobile platform using 2D laser-rangefinder data (ROS, SLAM, Python, Orange Pi 4). Rights holder — MSTU STANKIN.

Awards & Achievements

- 1st-degree prize, XXI International Symposium "Unique Phenomena and Universal Values of Culture" ("Technology and Engineering in the Context of Modern Civilization"), 2018.
- Letter of thanks for the "Archipelago 2024" project-education intensive — expert of the "AVTONAV" discipline (autonomous VTOL UAV flight).