

Marija Golubović

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[GitHub](#)/[LinkedIn](#)/[Webpage](#)

Work Experience

Robotics Software Engineer

02/2025 – Present

CERN, European Organization for Nuclear Research, Geneva, Switzerland

- Developed a collision avoidance module and integrated with exploration techniques.
- Developing a transform manager module that store and calculates transformations between robot links over time.
- Developing a lithium-ion battery monitoring prototype to track and manage power consumption.
- Developing and debugging a C++ robotics software framework, while exploring the integration of various tools to enhance its functionality.
- Testing and validating developed systems both in simulation and on real robots.

Robotics Software Engineer

05/2023 – 02/2025

Spes Robotics, Novi Sad, Serbia

- Developing and training an imitation learning model, collecting data, and deploying it on the Lite6 robotic arm. [link](#)
- Developed a visual servoing system based on a YOLO model trained on custom-collected data.
- Designed, implemented, and tested robotic systems using Webots and Isaac Sim simulators.
- Integrated motors, sensors, and cameras into robotic systems using the ROS 2 framework.

Teaching Assistant

10/2023 – 02/2025

Faculty of Technical Sciences, University of Novi Sad

- Hands-on exercises in processor architecture, VHDL design, and FPGA development.
- Compiler design exercises spanning theory and hands-on implementation.
- Real-time operating systems exercises focusing on practical applications, real-time constraints, and parallel/multiprocess execution.

Robotics Software Engineer

10/2021 – Present

Memristor Robotics, Novi Sad, Serbia

- Developing a ROS 2-based robotic software platform with integrated Docker, Webots simulator, and behavior tree. [link](#)
- Integrating various sensors, motors, and communication protocols on mobile robotic platforms using ROS 2.
- Gaining practical experience with electronics and fundamental mechanical systems for robotics applications.

Software Engineer, Team leader

01/2023 – Present

Bosch Future Mobility Challenge, Novi Sad, Serbia

- Developed image processing and object detection pipelines using the YOLO model and OpenCV to enable autonomous car behavior.
- Implemented multiprocess applications on Raspberry Pi and integrated Raspberry Pi camera and STM microcontroller into system.
- Utilized the Gazebo simulator with ROS1 for robotic development and testing.
- Led a team, organizing tasks and managing collaboration among team members.

Student Internship

07/2022 – 08/2022

RT-RK, Summer School on Advanced C and Embedded Linux, Novi Sad, Serbia

- Gained experience with advanced C programming, Linux operating systems, and the Linux kernel.
- Worked on writing simple drivers and implementing multithreading.
- Worked intensively with the Raspberry Pi board throughout the entire internship.

Coding Languages/Frameworks/Systems

Python3, C/C++, C#, Java, Java Script, VHDL , HTML/CSS

ROS2, Git, Linux OS, PyTorch, Scikit-learn, Docker, Make/CMake, Webots, Isaac Sim, MuJoCo, Behavior Tree, Doxygen

Raspberry Pi, Jetson Nano, Lite6 and Kinova robot arms, FPGA, Arduino, RealSense Camera, ZED Camera, Raspberry Pi Camera, LiDAR, Distance sensors, Servo motors

Communication and Interpersonal Skills

Communication, Team collaboration, Adaptability, Work under pressure, Quickly learn, Task management

Education

Master with Honours in Electrical Engineering <i>Faculty of Technical Sciences, University of Novi Sad</i>	10/2024 – present
Master with Honours Electrical and Computer Engineering <i>Faculty of Technical Sciences, University of Novi Sad, Serbia</i>	10/2023 – 09/2024
Bachelor with Honours in Electrical and Computer Engineering <i>Faculty of Technical Sciences, University of Novi Sad</i>	10/2019 – 09/2023

Language Skills

Language	Listening	Reading	Spoken Interaction	Writing
Serbian (Native)	C2	C2	C2	C2
English	C1	C1	B2	B2
French	A1	A1	A1	A1

Table 1: Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

Publications

- Lenka Brestovacki, Marija Golubovic, Jovan Bajic, Ana Joza, Branko Brkljac, Vladimir Rajs , *A low-cost Raspberry Pi based imaging system for analysis of fiber specklegram sensors*, Optical and Quantum Electronics, 56(7), 1261, Springer Jurnal
- Marija Golubović, *End to end robot control based on diffusion model*, Faculty of Technical Sciences, 2024
- Marija Golubović, *Object detection based on YOLOv8 model trained on a dataset enriched with synthetic images*, Faculty of Technical Sciences, 2023

Additional info: Awarded a prize with the team at the Hugging Face Hackathon (June 14–15, 2025) for developing an imitation learning model for a picking task, integrated with real and simulated environments, competing against over 200 teams worldwide.