Marija Golubović

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Work Experience

Robotics Software Engineer — 05/2023 – present
Spes Robotics, Novi Sad, Serbia

- Integrated motors, sensors, various cameras, and the Lite6 robotic arm into robotic systems using the ROS 2 framework.
- Developed and deployed robotic applications using ROS2, PyTorch, Behavior Tree and Docker.
- Applied machine learning models for object detection and imitation learning.
- Designed, implemented, and tested robotic systems using Webots and Isaac Sim simulators.

Teaching Assistant — 10/2023 – present
Faculty of Technical Sciences, University of Novi Sad

- I conduct practical exercises on processor architecture, VHDL design, and FPGA development.
- Guided students in compiler design, from theory to practical implementation.
- Taught real-time operating systems, emphasizing their practical applications and real-time constraints.
- Introduced parallel program execution using the OpenMP API and fundamentals of the STL C++ library.

Robotics Software Engineer — 10/2021 – present
Memristor Robotics, Novi Sad, Serbia

- Worked with various sensors and motors within the ROS2 framework.
- Gained basic exposure to electronics and mechanics.
- Worked with Webots simulator, Docker, and Behavior Tree for robotic system development.
- Worked with various communication protocols in robotic systems.
- Worked in a team and learned to work under pressure and with limited resources.

Software Engineer, Team leader — 01/2023 – present
Bosch Future Mobility Challenge, Novi Sad, Serbia

- Worked on image processing and object detection using the YOLO model to achieve car autonomy.
- Integrated multiple components on embedded platforms.
- Worked with Raspberry Pi, Raspberry Pi cameras, and STM microcontrollers.
- Implemented multithreading and used Gazebo simulator for robotics development.
- As a team leader, I learned to organize tasks and manage work 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, Docker, Make, Webots, Isaac Sim, Behavior Tree

Raspberry Pi, Jetson Nano, Lite6 robot arm, 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   10/2024 – present
Faculty of Technical Sciences, University of Novi Sad

PhD in Electrical and Computer Engineering   10/2024 – present
Faculty of Technical Sciences, University of Novi Sad

Master in Electrical and Computer Engineering   10/2023 – 09/2024
Faculty of Technical Sciences, University of Novi Sad, Serbia

Bachelor with Honours in Electrical and Computer Engineering   10/2019 – 09/2023
Faculty of Technical Sciences, University of Novi Sad

Language Skills

Language	Listening	Reading	Spoken Interaction	Writing
Serbian (Native)	C2	C2	C2	C2
English	B2	B2	B1	B1
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