Tomáš Merva

Robotics Software Engineer

- Phone: +421 907 021 459
- Email: tmerva7@gmail.com
- LinkedIn: linkedin.com/in/tomas-merva/
- GitHub: github.com/TomasMerva
- Location: Open to relocation | No visa required

Fresh PhD graduate passionate about efficient algorithms and solving real-world challenges through state-of-the-art robotics. Detail-oriented with experience in algorithm design, robotics software, and system testing. Driven by practical applications and always eager to grow through meaningful challenges.

Experience

Feb. 2024 - Sep. 2024 — **Visiting Researcher** — TU Delft, Netherlands

- Affiliated with Javier Alonso-Mora's Autonomous Multi-Robots Lab
- Developing reactive grasp and motion planning for mobile manipulators
- Developing control interfaces for the Dingo mobile base and Kinova robotic arm
- **Tools:** CasADi, OSQP, ROS1, git, IPOPT, PyBullet, Isaac Gym

Apr. 2019 - Sep. 2022 — **Research Engineer** — TU Kosice, Slovakia

- Embedded software development for battery cell testing systems
- Developing a CAN communication interface to enable data collection from testers
- ROS Integration of the industrial robotic manipulator with Siemens motor drives
- **Tools:** STM32, CAN, Qt, ROS1, Siemens SINAMICS S120

Jun. 2018 - Nov. 2018 — **Software Development Intern** — ZTS VVU a.s., Slovakia

- Developing a robotic manipulator for a nuclear power plant
- Contributed to testing and refinement of forward and inverse kinematics
- Implementing GUI for controlling the robotic manipulator in LabVIEW
- **Tools:** LabVIEW, FPGA: CompactRIO

Feb. 2018 - May. 2018 — **Software Development Intern** — Procaut a.s., Slovakia

- Implementing PLC software for the automotive industry
- **Tools:** Siemens TIA Portal, Siemens SINAMICS V90

Education

Sep. 2021 - Jun. 2025 — **PhD. in Mechatronics** — TU Kosice, Slovakia

- Studied motion planning methods for manipulators (STOMP, MPPI, Fabrics, ...)
- Reactive grasp and motion planning approaches for mobile manipulators
- Integrated multiple research projects into proof-of-concept demonstrations
- Teaching assistant and supervising bachelor's and master's students
- Collaborated with Photoneo to develop a driver for Mitsubishi robotic arms

Sep. 2018 - Jun. 2020 — **Master of Science in Electrical systems** — TU Kosice, Slovakia

- Rector's award for outstanding study results
- **Thesis:** Reinforcement learning in robotic arm position control
- **Coursework focus:** Servo systems, Signal processors, Power electronics, PLC

Sep. 2015 - Jun. 2018 — **Bachelor of Science in Automated Electrical Systems** — TU Kosice, Slovakia

- **Thesis:** Control of robotic arm in ROS
- **Coursework focus:** Motion controllers, Sensors, Microcontrollers, Electric motors

Skills

- Programming Languages: C++, Python, MATLAB
- Languages: Slovak (native), Czech (fluent), English (fluent - CAE C1), German (beginner)
- Tools: git, ROS1, MoveIt!, Robotics simulators, LaTeX, TIA Portal
- Soft Skills: Project management, Teamwork, Proactive attitude, Organizational skills