

Miroslav David

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EDUCATION

PhD Student

CIIRC, Czech Technical University

2025 – Present

Prague, Czech Republic

- **Field:** Language-Guided Human-Robot Interaction
- **Supervisors:** Prof. Robert Babuška and Dr. Karla Štěpánová

Master's in Cybernetics and Robotics

Czech Technical University in Prague

2023 – 2025

- **Thesis title:** Object Manipulation with Large Language Models in Real Robots
- Using KMR IIWA for testing feasibility of using LLMs for object detection, object 6D pose estimation and grasping

Bachelor's in Cybernetics and Robotics

Czech Technical University in Prague

2020 - 2023

- **Thesis title:** Robotic Helicopter Indoor Localization
- Implementing algorithms for Helicopter indoor localization in robotic simulator

PROFESSIONAL EXPERIENCE

Research Intern

CIIRC, Czech Technical University

2024 – 2025

Prague, Czech Republic

- Testing feasibility of LLMs for object detection, segmentation and gripping points estimation

PROJECTS

Team project - Sorting waste using robotic manipulator on moving conveyor

Detection of waste and using robotic manipulator to sort the waste according to the material

Automatic plant watering

Using sensors to automatically water a plant and send the values over LoRa

Scene 3D reconstruction

Reconstructing point cloud of the scene using series of RGB images

AIRISE

Helping companies with integrating AI

Autonomous navigation

Implementing SLAM in simulated and real robots

SKILLS

Languages: Python, C/C++, Matlab, Simulink, JavaScript

Robotics: Webots, CoppeliaSim, KUKA Sunrise Workbench

Machine Learning: PyTorch, Computer Vision, YOLO

LANGUAGES

Czech: Native

English: Fluent

German: Intermediate