Miloš Prágr

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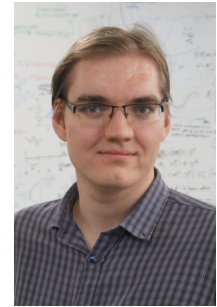Korkeakoulunkatu 6, 33720 Tampere, Finland

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Researcher ID: DYF-1147-2022

Education

2024	Ph.D. in Information Science and Computer Engineering, Faculty of Electrical Engineering (FEE), Czech Technical University in Prague (CTU), Czech Republic
2018	Ing. (MSc.) in Computer Vision and Image Processing, FEE, CTU

Positions

2025 – present	Postdoctoral research fellow – Autonomous Mobile Machines Group, Faculty of Engineering and Natural Sciences, Tampere University (TAU)
2024	Postdoctoral research fellow – Computational Robotics Laboratory, FEE, CTU
2018 – 2024	Research fellow – Computational Robotics Laboratory, FEE, CTU

Experience

2024	Organizing the From Learning-based to Foundation Models for Mapping workshop at IROS 2024
2023	Internship in the Robot Learning Lab, University of Washington in Seattle, WA, USA
2022	Participating in V4 Innovation Challenge Day in Debrecen, Hungary
2021	Participating in DARPA Subterranean Challenge Virtual Track

Projects

2024	Analysis of Solutions for High-speed Transmission of Unreal Engine 5 Data for the Ministry of Defence of the Czech Republic (Contract No. 24419/2024-SE)

Projects (Team Member)

2025	Explainable, Safe, Contact-Aware Planning and Control for Heavy Machinery Manipulation and Navigation (led by R. Ghabcheloo, TAU)
2024	Czech Distributed Cooperative Demonstration of Technology within the Loyal Wingman Scenario of the AVT-408 (led by J. Faigl, CTU)
2023	Evaluation of Geometry-based Traversability Analysis for Off-road Navigation for the Ministry of Defence of the Czech Republic (led by J. Faigl, CTU)
2022	Mobile Robot Pipeline Inspection for GasNet (led by T. Svoboda, CTU)
2019 – 2022	Multi-Robot Persitent Monitoring of Dynamic Environments (led by J. Faigl, CTU) *Czech Science Foundation (GA ČR), Project No. 19-20238S*
2018 – 2020	Robotic Lifelong Learning of Multi-legged Robot Locomotion Control in Autonomous Data Collection Missions (led by J. Faigl, CTU) *Czech Science Foundation (GA ČR), Project No. 18-18858S*

Community Service

Reviewer	International Journal of Advanced Robotic Systems (IJARS), Expert Systems With Applications (ESWA), Engineering Applications of Artificial Intelligence (EAAI), Robotics and Autonomous Systems (RAS)
	IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), IEEE International Conference on Robotics and Automation (ICRA), International Conference on Artificial Neural Networks (ICANN)

Selected Publications

1. Miloš Prágr, Jan Bayer, and Jan Faigl. **On Predicting Terrain Changes Induced by Mobile Robot Traversal.** In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2024, 10.1109/IROS58592.2024.10802070.

2. Miloš Prágr, Jan Bayer, and Jan Faigl. **Autonomous exploration with online learning of traversable yet visually rigid obstacles.** *Autonomus Robots*, 47, 2023, doi: 10.1007/s10514-022-10075-4.

3. Jan Faigl, Miloš Prágr, and Jiří Kubík. **On Autonomous mobile robot exploration projects in robotics course.** In *International Conference on Robotics in Education (RiE)*, 2023, doi: 10.1007/978-3-031-38454-7__1.

4. Miloš Prágr, Jan Bayer, and Jan Faigl. **Autonomous robotic exploration with simultaneous environment and traversability models learning.** *Frontiers in Robotics and AI*, 9, 2022, doi: 10.3389/frobt.2022.910113.

5. Rudolf Szadkowski, Miloš Prágr, and Jan Faigl. **Self-learning event mistiming detector based on central pattern generator.** *Frontiers in Neurorobotics*, 155, 2021, doi: fnbot.2021.629652.

6. Miloš Prágr, Petr Čížek, Jan Bayer, and Jan Faigl. **Online incremental learning of the terrain traversal cost in autonomous exploration.** In *Robotics: Science and Systems (RSS)*, 2019, doi: 10.15607/RSS.2019.XV.040.

7. Miloš Prágr, Petr Čížek, and Jan Faigl. **Traversal cost modeling based on motion characterization for multi-legged walking robots.** In *European Conference on Mobile Robotics (ECMR)*, 2019, doi: 10.1109/ECMR.2019.8870912.

8. Miloš Prágr and Jan Faigl. **Benchmarking incremental regressors in traversal cost assessment.** In *International Conference on Artificial Neural Networks (ICANN)*, 2019, doi: 10.1007/978-3-030-30487-4__52.

9. Jan Faigl and Miloš Prágr. **On Unsupervised learning of traversal cost and terrain types identification using self-organizing maps.** In *International Conference on Artificial Neural Networks (ICANN)*, 2019, doi: 10.1007/978-3-030-30487-4__50.

10. Miloš Prágr, Petr Čížek, and Jan Faigl. **Cost of transport estimation for legged robot based on terrain features inference from aerial scan**. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2018, doi: 10.1109/IROS.2018.8593374.