Luka Petrović

10.02.1995., Zagreb, Croatia
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Work experience

Sep. 2017 - Present

Research and teaching assistant @ **UNIZG-FER**

Researching trajectory optimization methods for robot motion planning in high-dimensional configuration spaces. Teaching assistant for Machine learning and Computer-controlled systems courses.

Mar. 2018 - Jul. 2019

Researcher @ **ICENT**

Developing cyber-physical middleware in the scope of a Horizon 2020 Innovation Action project *Logistics for Manufacturing SMEs (L4MS)*.

Oct. 2018 - Nov. 2019

Visiting researcher @ **KIT**

Researching robot motion planning methods in collaboration with Intelligent Process Automation and Robotics (IPR) laboratory at Karlsruhe Institute of Technology (KIT).

Education

2017-now **Ph.D candidate, Robotics**
University of Zagreb
Laboratory for Autonomous Systems and Mobile Robotics (LAMOR)

2015-2017 **M.Sc, Electrical Engineering and IT**
University of Zagreb
Graduated with high honors (top 3%)

2012-2015 **B.Sc, Electrical Engineering and IT**
University of Zagreb

Awards and Achievements

2017 **Bronze Plaque "Josip Lončar"**
Faculty of Electrical Engineering and Computing, University of Zagreb
Awarded to the top 1% students during graduate studies.

2017 **Scholarship for academic excellence**
University of Zagreb
Awarded for outstanding academic achievement.

2016 **Rector's award**
University of Zagreb
Awarded for outstanding student research thesis titled 'Decentralized control of the multi-agent robotic system'.

2016 **Dean's award "Josip Lončar"**
Faculty of Electrical Engineering and Computing, University of Zagreb
Awarded to the top 1% of students during the first year of graduate studies.

Publications

under review @ RAS
Cross-Entropy based Stochastic Optimization of Robot Trajectories using Heteroscedastic Continuous-time Gaussian Processes

under review @ IEEE T-RO
Temporal and Extrinsic Multisensor Calibration via Gaussian Processes Moving Target Tracking

under review @ IFAC WC 2020
Gaussian Processes Incremental Inference for Mobile Robots Dynamic Planning

arxiv.org/abs/1908.02963 @ IROS 2019
Fast Manipulability Maximization Using Continuous-Time Trajectory Optimization

10.1016/j.ifacol.2019.11.055 @ WROCO 2019
Open Platform Based Mobile Robot Control for Automation in Manufacturing Logistics

10.1109/ECMR.2019.8870970 @ ECMR 2019
Stochastic Optimization for Trajectory Planning with Heteroscedastic Gaussian Processes

10.1016/j.ifacol.2018.11.535 @ SYROCO 2018
Multi-agent Gaussian Process Motion Planning via Probabilistic Inference

10.1109/EDPE.2017.8123230 @ EDPE 2017
Self-learning Model Predictive Control Based on the Sequence of Controllable Sets

Software skills

Experienced	MATLAB, ROS, Latex
Intermediate	C++, Simulink, Git, Linux
Basic	C, Python, PLC

Engineering skills

Experienced	Motion planning, Control theory
Intermediate	Estimation theory, Machine learning
Basic	Deep learning, Microcontrollers

Language skills

English	Full professional proficiency
German	Elementary proficiency
Croatian	Native speaker

Other

Service	**Reviewer for journals**: IEEE Access, IEEE RA-L
	Reviewer for conferences: ECC, IFAC WC, IFAC WROCO
Memberships	IEEE Student member