JUHA HOVI, M.Sc. (Tech.)

juha-hovi.github.io | juha-hovi | Finnish

Summary

Master of Technology graduate with demonstrated experience in robotics, programming, and artificial intelligence. Believes in continuous learning and improving, excellent communication and inter-personal skills.

Education

Doctoral Student — *Tokyo, Japan*

THE GRADUATE UNIVERSITY FOR ADVANCED STUDIES, SOKENDAI — *Oct. 2019 - Current*

- Informatics, AI, Machine Learning: Rule-based decision-making in driving applications

Master of Science (Technology) — *Espoo, Finland*

AALTO UNIVERSITY — *Jun. 2019*

- **Major:** Control, Robotics and Autonomous Systems

Bachelor of Science (Technology) — *Espoo, Finland*

AALTO UNIVERSITY — *Aug. 2016*

- **Major:** Automation and Systems Technology
- **Minor:** Computer Science / Software Engineering

Experience

National Institute of Informatics — *Tokyo, Japan*

TECHNICAL SPECIALIST / RESEARCH ASSISTANT — *Jul. 2019 - Current*

- Research on ontology based systems for autonomous vehicles

National Institute of Informatics — *Tokyo, Japan*

RESEARCH INTERN — *Nov. 2018 - May 2019*

- Research on AI and machine learning for advanced driving assistance systems

Skills

Languages:	Finnish - Native	Japanese - Basic
	English - Fluent	Swedish - Basic
Programming:	Python	C++
	C	MATLAB
	CUDA	Parallel Programming
	PLC-Languages	Declarative Programming (ASP, constraint, etc.)
OS:	Windows	Linux

Projects (juha-hovi.github.io)

Master's Thesis [Python, CARLA, ROS]

DATA-DRIVEN GENERATION OF RULES FOR ONTOLOGY-BASED DECISION MAKING SYSTEMS IN AUTONOMOUS VEHICLES

- **Published:** JIST2019: The 9th Joint International Semantic Technology Conference
- Extraction of vehicle behavioral patterns from simulated data
- Simulated in CARLA, controlled through Python-API

Remote User Motion Mapping for InMoov Open-Source Robot [Python, ROS]

- Prototyping: Robotic telepresence through machine vision and physical systems
- User motion capture through Microsoft Kinect, IMUs, and Flex Sensors
- Simulation and control in ROS using Python

Autonomous Mapping of Dynamic Environments [Python, C++, ROS]

- Autonomous Robotics: Mapping indoor areas with KUKA youBot
- Control in ROS using modules written in Python and C++
- PyQT-based user interface

Bachelor's Thesis

RGB-D BASED SEGMENTATION METHODS

- Machine vision: Usage of depth data to complement color data in image segmentation

3D Modeling Software [C++, OpenGL]

- Personal project to learn/practice C++ and 3D computer graphics through OpenGL

High-Performance Parallel Programming [C++, CUDA]

- Taking full advantage of modern CPUs/GPUs
- **Techniques, such as:** multi-threading, superscalar processors, instruction-level parallelism, pipelines, vector instructions, memory access patterns, register reuse, cache reuse