Hämäläinen Aleksi

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ABOUT ME

For the last two years, I have focused on building a theoretical base in the field of intelligent systems. Now, I am looking for a job in the field. On my free time, I go fishing, hiking, or attend a triathlon.

EDUCATION

AALTO UNIVERSITY
M.Sc, Machine Learning and Data Mining
April 2019 | Helsinki, Finland
GPA: 4.5 / 5.0
Minor: Robotics

TSINGHUA UNIVERSITY
Tsinghua International Summer School: Deep Learning
July 2017 | Beijing, China

AALTO UNIVERSITY
B.Sc, Industrial Engineering and Management
Nov 2017 | Helsinki, Finland
GPA: 4.1 / 5.0
Minor: Computer Science

LINKS

Github:// gamleksi
LinkedIn:// aleksi-hamalainen

SKILLS

Experienced:
Python • C++ • Matlab • ROS
MuJoCo • Simulink • PyTorch
TensorFlow • Ubuntu • MacOs
Familiar:
Scala • Javascript • OpenCv • React
MySQL • C • Cuda • Blender • XML

COURSEWORK

- Computational inverse problems
- Bayesian Data Analysis
- Deep Learning
- Digital and Optimal Control
- Non-linear Filtering and Parameter Estimation
- Manipulation, Decision Making and Learning in Robotics
- Programming Parallel Computers
- Euclidean Spaces

EXPERIENCE

INTELLIGENT ROBOTICS GROUP, AALTO UNIVERSITY | Msc Thesis worker / Research Intern
Aug 2018 - Present | Helsinki, Finland
I have developed a machine learning model, that can perform based on image data a robotic manipulation task in the real world. With domain randomization and behavioral cloning, the system can be solely taught in a simulation, from which the learned model can be transferred into a real environment. I have conducted the entire pipeline from building the simulation to demonstrating successful results in a real environment. Technologies, such as ROS, MoveIt!, OpenCv, MuJoCo, and PyTorch are used. This work will be submitted to IROS.

INTELLIGENT ROBOTICS GROUP | Research Intern
May 2018 – Jul 2018 | Helsinki, Finland
I conducted a domain randomization method for affordance detection for a robotic manipulation task. The method was developed with Blender, a 3D computer graphics software. A target environment was first modeled with Blender. Images of the environment and their respective affordance labeled images were rendered. Properties, such as textures, positions, shape, scale of objects in the environment were randomized for each image.

JUNCTION HACKATHON | Board member
Jan 2017 – Present | Helsinki, Finland
Junction hackathon functions as an independent company since January 2017. Junction has developed into an international hackathon organized in Finland, Japan, Vietnam, China, Hungary, and Saudi Arabia.

AALTO ENTREPRENEURSHIP SOCIETY | President
Jan 2016 – Dec 2016 | Helsinki, Finland
Aaltoes is Europe's most active entrepreneurship society, and, as a key player in European startup scene, it has founded Slush and Junction. As president, I was responsible for team building, strategy, and growth. We organized Junction hackathon for the second time, and scaled the event to 1500 participants from 70 countries, which resulted in a world-class hackathon. I got selected to the list of top 100 information technology influencers in Finland: the list in Finnish.

JUNCTION HACKATHON | Head of Participants
Jun 2015 – Dec 2015 | Helsinki, Finland
I gathered 500 participants from 30 countries for the first Junction hackathon.

PROJECTS

IMITATION LEARNING FOR AN RC CAR
A hackathon project, where an RC car agent imitates driving on a track based on gathered driving data. The behavioral model was inspired by Nvidia..

SELF-SUPERVISED LEARNING FROM VIDEO
Replication of the model in *Time-Contrastive Networks: Self-Supervised Learning from Video* for a manipulation task in a simulation. Link to the project.

PATH TRACER
A course project built with C++, where I developed a data structure accelerator and parallelization for the path tracer. Link to the project.

REGISTRATION SYSTEM FOR JUNCTION
A registration platform for 1500 participants built with React and Express for Junction 2016. Link to the project.