Curriculum Vitae

Mark Philip Philipsen

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Goal

Autonomous self-replicating robots exploring the solar system. But first I want to work on increasing the level of automation in the food industry.

Skills

Expertise:	Computer Vision, 3D Vision, Project proposals, Evaluation
Soft Skills:	Team work, Project planning
Preferred Languages:	Python, C++, C
Software:	PyTorch, Tensorflow, OpenCV, PCL, ROS, git, Unity

Work Experience

2020 – now
Postdoctoral Researcher, AAU
Computer Vision and Machine Learning research and applications
- Graph Neural Networks for mapping
- Machine vision for quality control
- Supervising student projects and teaching tasks
- Research and grant writing

2015 – 2016
Research Assistant, AAU
Computer Vision and Machine Learning research and applications
- Activity monitoring of mountain bike trails using thermal camera
- Machine vision for quality control in slaughterhouses
- Supervising student projects and teaching assistant tasks

2012 – 2015
Student Software Developer, Intel Mobile Communications
- Analyzing and solving software problems
- Propagating solutions between products
- Debugging, test and verification

Education

2017 – 2019

Industrial Ph.D in Applications of Vision and Robotics in Meat Production, Aalborg University (AAU) & Danish Teknological Institute
Bringing state-of-the-art machine learning to bear on automation problems in a slaughterhouse setting.

- Tool pose prediction from 3D point clouds
- Virtual Reality for remote control and data labeling
- Reinforcement Learning for process optimization

2013 – 2015

M.Sc. in Vision, Graphics & Interactive Systems (VGIS), AAU
Semester projects and courses covering; computer vision, computer graphics and interactive systems.

Computer Vision for Vehicles Visiting Graduate Student at the Laboratory for Intelligent and Safe Automobiles (LISA), University of California, San Diego.

- Traffic light detection for driver assistance systems
- Detection and tracking of vehicles for event detection

Crowd Counting at a Carnival

- Segmentation and tracking of carnival participants

Augmented Reality for exploring virtual 3D models of buildings

- Interactive iPad application
- Cutaway effects shader programming

2010 – 2013

B.Sc. in Internet Technologies & Computer Engineering (ITC), AAU
Semester projects and courses covering; distributed systems and understanding network technologies and computer architectures.

Person identification

- Fusion of facial and iris features for identification

Event and location based photo sharing

- App and back-end development

Autonomous/Remote controlled boat

- Network programming and real-time operation system

Advanced bike light

- Micro-controller programming and communication between watch and bike

Academics

July 2014

Telecom Seeds for the Future, Huawei, China
Selected as one of five students from Aalborg University to visit Huawei and China.

- Chinese Language & Culture Study program
- Huawei LTE technology training

July 2013 **Implementing Europe's Future Broadband Infrastructure,** University of Technology and Life Sciences, Poland
Erasmus summer course with topics such as:

- Physical network planning
- Network architectures and technologies
- Applications and services
- Business and technology alignment, enterprise engineering

Publications

Available at Google Scholar and `vbn.aau.dk`
Peer reviewed scientific papers: 14+

Interests

Professional:	Computer Vision, Machine Learning, Robotics, Communication Technologies
General:	Science, History, Politics, Travel, Investment, Skiing, Dog, Motorcycling