



Morten H. Rudolfson

M. Sc.
Mechatronics Engineer

- April 30, 1989
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Languages

- Norwegian ●●●●●
- English ●●●●●

Education

- M. Sc. Mechatronics
University of Agder | 2015-2017
- B. Sc. Mechatronics
University of Agder | 2012-2015
- Engineering Pre-Course
University of Agder | 2011-2012

Strengths

- Innovative
- Improviser
- Quick Learner
- Hard Working

Work Experience

Vocational

- 2017–present **Assistant Professor** University of Agder
Been working at the University with some various tasks:
 - Lecturer**
Lecturing first year bachelor students in programming and the basics of MATLAB, as well as master students in Industrial IT and PLC programming.
 - Supervisor**
Supervising students through their bachelor and master theses within the field of mechatronics, with sensor interpretation, control theory, programming and more.
 - Project Manager**
Project Manager for FYSE (First Year Study Environment), a project initialized at UiA in 2018 with the purpose of improving the impression the students have on the first year in higher education. By introducing a coaching program with former first year students, the socializing and the overall level of completion in the first year should increase.
 - Makerspace Administrator**
A place where the students can build their mechatronics ideas and get assistance from experienced students. The University covers the expenses as an investment of promotion. My role is to provide and maintain the Makerspace stock with electro and mechanical components, assisting the students in their projects, as well as promotion.
- 2017–Present **R&D Engineer** Red Rock AS
During my time at Red Rock I worked with future load handling systems, smart engineering, software and hydraulic engineering.
- Sep 2017 **Course Holder** Tekna AS
A crash course in MATLAB was arranged by Tekna at UiA.
- 2013–2017 **Academic Assistant** University of Agder
During my time as a student I was assisting and mentoring various courses as mathematics, physics, control theory, FEM-analysis, mechatronics and instrumentation.

Courses and Seminars

- 2021 **University Pedagogy** University of Agder
Mandatory Pedagogy course for lecturing at Universities.
- 2019 **Machine Learning Course** MATLAB/Mathworks
An online course from Mathworks, covering the basics of machine learning, finding natural patterns in data, building classification models, regression models and neural networks.
- 2018 **Supervision Seminar** University of Agder
A supervision seminar to prepare for supervising bachelors, masters and PhD-thesis.

Achievements

- 2017 **Most Excellent Master's Thesis** Node AS
Granted the award for the best Master's Thesis at the University of Agder in 2017, with the thesis "Semi-Autonomous Self-Balancing Service Robot, with Simultaneous Localization and Mapping"

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About Me

Mechatronics engineer with practical experience from the industry and academia. A curious engineer who enjoys making and creating.

Skills

Relevant Skills

Engineering	● ● ● ● ●
Programming	● ● ● ● ●
Control Theory	● ● ● ● ●
Electronics	● ● ● ● ●
Simulation	● ● ● ● ●
Modelling	● ● ● ● ●
Mechanics	● ● ● ● ●
Hydraulics	● ● ● ● ●
Instrumentation	● ● ● ● ●
Computer Vision	● ● ● ● ●

Programming Skills

MATLAB	● ● ● ● ●
Python	● ● ● ● ●
LabVIEW	● ● ● ● ●
Simulink	● ● ● ● ●
C	● ● ● ● ●
PLC	● ● ● ● ●
C++	● ● ● ● ●

Hobbies

- Engineering
- Electrifying stuff
- Gaming
- The outdoors
- Skiing
- Snowboarding

Theses

title	Semi-Autonomous Self-Balancing Service Robot, with Simultaneous Localization and Mapping	Master's Thesis, UiA
authors	Morten H. Rudolfson and Teodor N. Aune	
supervisor	Morten Ottestad	
description	A balancing robot was made from the parts of an electric wheel chair. The robot was fitted with sensors as an IMU, encoders and LIDAR to solve the problem with an naturally unstable robot and creating a map in an unknown area using SLAM (simultaneous localization and mapping). This thesis was granted the award for best master's thesis by Node AS.	

title	Development of a Camera Calibration Rig	Bachelor's Thesis, UiA
authors	Morten H. Rudolfson, Geir Thorsen, Kenneth Bang and Trond Richardson	
supervisor	Morten Ottestad	
description	A rig was constructed that automatically calculates the focal length and distortion coefficients for single camera, as well as the fundamental matrix, and essential matrix for stereo cameras. The only input of the system was computer vision with the camera that was to be calibrated. Using data from the camera the rig adjusted the distance to the calibration template automatically and snapped a stochastic sequence of images for the calibration routine that returned the desired parameters.	

Publications

- Rudolfson, Morten H, Teodor N Aune, Oddgeir Auklend, Leif Tore Aarland, and Michael Rudermand. "Identification and control design for path tracking of hydraulic loader crane". *2017 IEEE International Conference on Advanced Intelligent Mechatronics (AIM)*. IEEE. 2017. 565-570. Print.
- Rudolfson, Morten H. and Teodor N. Aune. "Semi-Autonomous Self-Balancing Service Robot, with Simultaneous Localization and Mapping". MA thesis. Universitetet i Agder, Grimstad, 2017. Print.
- Morten H. Rudolfson, Geir Thorsen, Kenneth Bang and Trond Richardson. "Development of a Camera Calibration Rig". BA thesis. Universitetet i Agder, Grimstad, 2015. Print.

List of References

Reference	Title	Company
Morten Ottestad	Assistant Professor	University of Agder
Christoffer Jørgenvåg	Chief Executive Officer	Red Rock AS
Teodor N. Aune	R&D Engineer	Red Rock AS

Contact information of the references will be given if requested.