

Andreas Rønne STOKHOLM

PERSONAL INFORMATION

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SUMMARY

During my Ph.D. education and Master's degree in electrical engineering, I have specialized in space technology, within mission planning, instrumentation, data analysis, and AI for monitoring the Earth. As a Ph.D. student at the Danish *National Space Institute, DTU Space*, I am collaborating with *the European Space Agency (ESA)* in developing AI algorithms to automatically map sea ice in the Arctic for maritime navigation using Earth Observation (EO) data measured by satellites in space. I have a strong passion for geographical information systems and environmental data. A traineeship in Italy at ESA, exchange stays in Australia, Scotland, and Canada has given me a broad international outlook and network. Extracurricular activities in student communities during my studies have provided thorough experience in leadership, organizing, planning, and communication. Personally, I am self-motivated, goal orientated, engaged, and a team player.

EDUCATION

2021, Mar	Ph.D Student, at DTU Space, National Space Institute and ESA, Φ-Lab Research project on mapping Arctic sea ice in the Arctic using Deep Learning and EO, co-funded by ESA, part of the ESA AI4Arctic project, and visiting researcher at the EU-leading EO research hub, Φ-lab. Research dissemination includes scientific communication, motivating young people to study STEM, and supervising student projects ranging from digital electronics to monitoring pollution with satellites. The Ph.D. program is providing me with a strong foundation and network for future research within AI4EO.
2018, Feb 2020, NOV	Master of Science in Engineering (Electrical Engineering) Technical University of Denmark (DTU), Kgs Lyngby Courses has taught me advanced satellite design and mission planning, spacecraft instrumentation, AI, EO data processing, and entrepreneurship. A broad and deep understanding of satellites and data enables me to work with complex data science tasks.
2020, MAY-NOV	Master Thesis and Traineeship at ESA, Φ-Lab Independent research project on mapping Arctic sea ice concentration using Sentinel-1 SAR and AMSR2 Radiometry EO data and AI Convolutional Neural Networks. The traineeship has given me insights into the forefront of AI4EO research and a network at ESA.
2019, SEP 2020, MAR	Research project in Earth Observation Sentinel-1 SAR interferometric analysis of permafrost thawing cycle in West Greenland.
2014-2018	Bachelor of Science in Engineering (Electrical Engineering), DTU, Kgs Lyngby. Studied advanced electrical systems within analog and digital electronics. General competencies in mathematics, physics, programming, and statistics have been obtained. Elective courses in project management and robotics.
2017, FEB-JULY	Exchange student at University of Melbourne, Australia

WORK EXPERIENCE

2020, Dec 2021, Feb	Research assistant at DTU Space, Geodesy & Earth Observation division
2018, June 2020, NOV	Student assistant at DTU Space, Geodesy & Earth Observation division Tasks included scientific assistance and fieldwork, collecting validation data for satellites monitoring Arctic sea ice in Greenland and Svalbard.
2019, OCT 2020, SEP	Co-Founder at Tradewind, A data platform for the renewable energy industry, forecasting energy prices and electricity production of wind turbines based on environmental data.
2019, Sep 2020, FEB	Teaching Assistant at DTU Space in Engineering Practices (1st semester undergraduate course)
2018 Aug & 2019 JAN	Teaching Assistant in Project Management at DTU Management (BSc + MSc course)

VOLUNTARY WORK

2018 & 2019	Governing board member at Egmont College, Copenhagen
2015 Nov - 2017 Feb	Coordinator of the Bachelor Study start (KABS) at DTU for a new international study program - General Engineering. Coordinated a study start for 2100 students and responsible for tutoring a new international program: General Engineering. Employed, educated, and motivated tutors and established a new community across cultures. Was awarded "Hero of PF" by the student association Polyteknisk Forening (PF). Received diploma from DTU as recognition. Achieved administration, leadership, organizational and coordinating experience.
2017, AUG-DEC	Buddy for new international master students
2016, SEP-DEC	Chairman of General Engineering Student Council
2015, 2016 2018, 2019	Volunteer technician/electrician at the music festival Distortion in Copenhagen (June)

IT & PROGRAMMING-SKILLS

Intermediate Knowledge:	Office-pack, Adobe Photoshop, LINUX, C, C++, Java, R
Advanced Knowledge:	Python, Matlab, \LaTeX

LANGUAGES

DANISH:	Native
ENGLISH:	Fluent
FRENCH:	Basic understanding

CERTIFICATIONS

Project manager by DS/ISO 21500 standard PADI Open Water Diver

INTERESTS AND HOBBIES

Emphasis on social and physical activities as well as travels. My residency at Egmont College has expanded my social competencies, tolerance, and understanding of diverse people with different educations. I prioritize a tolerant working environment, which is well functioning with space for everyone. I have practiced gymnastics and calisthenics for 6 years and have completed a half-marathon in Munich in 2017 together with friends from my exchange stay.

SCIENTIFIC WORK

9.1 Publications

- [1] Andreas Stokholm, Sine M. Hvidegaard, René Forsberg, and Sebastian B. Simonsen. Validation of airborne and satellite altimetry data by arctic trucks citizen science. *Geological Survey of Denmark and Greenland (geus) Bulletin*, 47(1):5369, 2021.

9.2 Dissemination

- OCT 2021 | Co-organizer, session facilitator and presenter at the side event Machine Learning for Operational Sea Ice Charting at the ESA ϕ -week.
- SEP 2021 | Technical Talk on Arctic Applied AI and Data Science at the international workshop AIDingArctic hosted by NTNU.
- AUG 2021 | Technical and business developer advisor at Launchpad, the space entrepreneur bootcamp by ESA Business Incubator Center, Denmark
- APR 2021 | European Geosciences Union General Assembly, Session: Data Science and machine learning for Cryosphere and Climate
- MAR 2021 | Vild med Rummet 'Crazy About Space', public 1-day outreach program to encourage high school students to study STEM.

9.3 Field Campaigns

- FEB/MAR 2020 | Airborne gravitational measurement campaign in Southern Namibia
- AUGUST 2019 | CryoVEx, CryoSat satellite airborne validation campaign, Northern Greenland.
- FEB/MAR 2019 | CIMRex, sea-ice concentration and sea-surface temperature airborne data collection campaign in support of new algorithms for the upcoming CIMR satellite, Svalbard.