

Anders Austlid Taskén

CV

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Education

- 2021–2024 **PhD Candidate, Computer Science, Norwegian University of Science and Technology**, Trondheim, Norway (due to submission of Thesis by June 2024).
Project Description: Functioning and robust non-harming monitoring of LV cardiac function in a perioperative setting by automatic predictions of cardiac contraction and deformation based on machine learning, and estimation of cardiac parameters (i.e. MAPSE, strain, EF).
PhD Thesis Tentative Title: *Computerized Artificial Intelligence for Automated Monitoring of Left Ventricular Function by Ultrasound.*
- 2023–2023 **Research Stay Abroad, CREATIS, INSA, Lyon, France.**
Project Description: Generation of realistic synthetic ultrasound data for the purpose of training and validating segmentation and motion tracking algorithms for diagnostic support. Transesophageal data was generated by adopting a simulation pipeline developed within CREATIS, INSA Lyon. Synthetic data was used to train state-of-the-art machine learning-based methods for segmentation and motion tracking.
- 2016–2021 **Master of Science, Cybernetics and Robotics, Norwegian University of Science and Technology**, Trondheim, Norway.
This study-program taught how to control and supervise complex dynamic systems by combining computer science, physics, mathematical calculations, and advanced regulation.
Field of Study: Biomedical Cybernetics.
Master Thesis: *Deep Learning Based Tracking of Anatomic Structures in Intra-operative Cardiac Volumes.*
Average Grade: B (5-year), A (master)
- 2019–2020 **Student Exchange (Erasmus), University of Trento, Trento, Italy.**
Exchange student, taking the fourth year as part of the Master on a collaborative programme between NTNT and University of Trento.
- 2012–2015 **Upper Secondary School, Valler High School, Bærum, Norway.**
Average Grade: 5.3

Publications

- [1] Anders Austlid Taskén, Erik Andreas Rye Berg, Bjørnar Grenne, Espen Holte, Håvard Dalen, Stian Stølen, Frank Lindseth, Svend Aakhus, and Gabriel Kiss. “Automated estimation of mitral annular plane systolic excursion by artificial intelligence from 3D ultrasound recordings”. In: *Artificial Intelligence in Medicine* (2023), p. 102646. ISSN: 0933-3657. DOI: <https://doi.org/10.1016/j.artmed.2023.102646>. URL: <https://www.sciencedirect.com/science/article/pii/S0933365723001604>.

- [2] Erik Andreas Rye Berg, Anders Austlid Taskén, Trym Nordal, Bjørnar Grenne, Torvald Espeland, Idar Kirkeby-Garstad, Håvard Dalen, Espen Holte, Stian Stølen, Svend Aakhus, and Gabriel Kiss. "Fully automatic estimation of global left ventricular systolic function using deep learning in transoesophageal echocardiography". In: *European Heart Journal - Imaging Methods and Practice* 1.1 (July 2023), qyad007. ISSN: 2755-9637. DOI: 10.1093/ehjimp/qyad007. eprint: <https://academic.oup.com/ehjimp/article-pdf/1/1/qyad007/50851468/qyad007.pdf>.
- [3] Anders Austlid Taskén, Jinyang Yu, Erik Andreas Rye Berg, Bjørnar Grenne, Espen Holte, Håvard Dalen, Stian Stølen, Frank Lindseth, Svend Aakhus, and Gabriel Kiss. "Automatic Detection and Tracking of Anatomical Landmarks in Transesophageal Echocardiography for Quantification of Left Ventricular Function". Accepted: *Ultrasound in Medicine and Biology*.
- [4] Jinyang Yu, Anders Austlid Taskén, Hans Martin Flade, Eirik Skogvoll, Erik Andreas Rye Berg Berg, Bjørnar Grenne, Audun Rimehaug, Idar Kirkeby-Garstad, Gabriel Kiss, and Svend Aakhus. "Automatic assessment of left ventricular function for hemodynamic monitoring using artificial intelligence and transesophageal echocardiography". In press: *Journal of Clinical Monitoring and Computing*.
- [5] Jinyang Yu, Anders Austlid Taskén, Erik Andreas Rye Berg Berg, Tomas Dybos Tannvik, Katrine Hordnes Salgs vold, Idar Kirkeby-Garstad, Bjørnar Grenne, Gabriel Kiss, and Svend Aakhus. "Continuous monitoring of left ventricular function in intensive care using artificial intelligence and transesophageal echocardiography". In review: *Anesthesia Analgesia*.

Experience

Vocational

- 2023–2024 **Researcher, Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway.**
Adjunct appointment 20%, temporary position.
- 2021–2023 **Researcher, St. Olavs hospital, Trondheim University Hospital, Clinic of Cardiology, Trondheim, Norway.**
Adjunct appointment 20%, temporary position.
- 2020 **Summer Intern, Hy5 Pro AS, Oslo, Norway.**
Hy5 Pro was a Medtech company developing a myoelectric hand prosthetic, and I developed a mobile platform for this prosthesis. Using Firebase and Bluetooth technology, the platform connected to the prosthetic, performed diagnostic tests, and configured the settings. The platform also enabled users to train in the use of the prosthetic, in order to improve the performance and usability. The MyHand user interface was greatly expanded with this platform, in terms of production, development, and user experience.
- 2019 **Summer Intern, Computas AS, Oslo, Norway.**
An emergency preparedness platform was developed. The solution made the handling and mapping of emergency situations easier and safer. The platform was implemented with native app development in Swift and Kotlin, and with a backend database solution through Google Cloud Platform.
- 2017–2019 **Senior Research Developer, Ntention (former Arveng Technologies), Trondheim, Norway.**
Ntention was developing a highly technological glove equipped with sensors to capture the motion of the human hand (which became capable of controlling drones during the time I worked there).

2018 **Summer Intern, Nordic Semiconductor, Trondheim, Norway.**

Developed a complete app for iOS using Swift 4. The app was related to the work in Ntention and made it possible to control drones with a glove. The app handled Bluetooth and WiFi connections, computing and processing of sensor values, and UI and UX.

Voluntary

2018–2019 **Software Developer, NTNU, Operating Room of the Future, Trondheim, Norway.**

In cooperation with The Operating Room of the Future (FOR) at St. Olavs hospital HF and NTNU, visualization of radiological imaging on Microsoft HoloLens was developed. With the use of Volume Rendering in an augmented reality headset, organs and bone structures based on patient-specific ultrasound data and computed tomography scans were visualized as holograms.

Qualification

2023 **Journal Reviewer**

Scientific Reports, Nature Portfolio

International Journal of Clinical Practice

2022 **Co-supervisor of Master Thesis for Vilde Wøien**

M.Sc. in Engineering and ICT. **Thesis Title:** *Supervised Deep Learning for Perioperative Cardiovascular Monitoring*

2022 **Co-supervisor of Master Thesis for Kåre Fosli Obrestad**

M.Sc. in Computer Science. **Thesis Title:** *Aortic Valve Localisation in 3D Transesophageal Echocardiography Volumes using Deep Learning.*

2022 **Attendee at MICCAI 2022**

Attended the international conference on Medical Image Computing and Computer Assisted Intervention.

2018 **Exhibitor at CES 2018 Las Vegas**

Exhibiting at the world's largest consumer electronics technology conference with Ntention. This was called the global fair for innovation.

2018 **Exhibitor at Startup Launchpad 2018**

Exhibiting at Asia's largest retail startup fair in Hong Kong with Ntention.

2018 **Attendee at Sino Track 2018**

Attended an international accelerator program run by COMB+ with Ntention in Beijing.

Computer skills

Python, PyTorch, OpenCV, MATLAB, C++, C, git, Latex, Unity, HoloLens, Swift, Julia, Elixir

Languages

Norwegian Mother tongue

English Fluent

References

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