**Yaolin Ge**

Alfred Getz' vei 1, 7034 Trondheim, Norway | +47 92526858 | <https://yaolinge.github.io> | [yaolin.ge@ntnu.no](mailto:yaolin.ge@ntnu.no)

**A picture containing person, wall, indoor, person

Description automatically generatedSummary**

* *Ph.D. candidate in the statiticsgroup*  at *thedepartment of* mathematical *sciences at NTNU.*
* *Experience with remote sensing using spatial statistics* and  *machine learning for underwater robots and satellite images.*
* *Practice in deep learning techniques for computer vision.*

**Education**

**Norwegian University of Science and Technology Trondheim, Norway**

*PhD candidate in the statisticsgroup, Department of Mathematical Sciences*  Aug. 2020 – present (expected Aug. 2023)

Thesis project: Use is spatialstatistical modeling techniques and developmentis reinforcement learningmethods for oceanographic sampling using autonomous robots. Has validated the system by conducting several successful field experiments.

**Royal Institute of Technology Stockholm, Sweden**

*MSc, Maritime* Engineering, G.P.A. 4.625/5.00 Aug. 2019 – Aug. 2020

Thesis project: Developed an embedded software system to estimate and predict the location of robots.

**Norwegian University of Science and Technology Trondheim, Norway**

*MSc, Marine Technology,* G.P.A. 3.93/4.00 Aug. 2018 – Aug. 2019

Relevant project: Developed numerical prediction system for propell-lifting forces.

**University of Strathclyde Glasgow, UK**

*International Student Exchange Program,* G.P.A. 3.85/4.00 Aug. 2017 – Jan. 2018

Relevant project: Analyzed structural static and dynamic behavior using the Finite element method.

**Jiangsu University of Science and Technology Zhenjiang, China**

*BSc, Naval Architecture and Marine Engineering,* G.P.A. 3.89/4.00**,** Rating: 2/230 Aug. 2014 – Aug. 2018

Thesis project: Analyzed the results of a numerical solver to study the effect of Vortex-Induced-Vibration on slender body structures such as a steel chain line riser in the deep sea.

Awards: National Research Fellow (top 1%), First prize in Academic Competition in Mechanics knowledge,

**Research experience**

**Norwegian University of Science and Technology Trondheim, Norway**

*PhD candidate, Department of Mathematical Sciences* Aug. 2020 – present

* Designed multiscale research projects for variable targets that utilize a variety of resources, including numerical solver SINMOD, underwater robot LAUV-Thor/Harald and satellite Sentinel-2, etc.
* Conducted several successful field experiments in the Trondheimsfjord, Norway and in the Atlantic Ocean to validate the robustness and sensitivity of the system.
* Collaborate closely with several research institutes, including SINTEF Ocean, AURLab NTNU, LSTS, MARETEC for knowledge dissemination to promote new ideas.
* Analyze and interpret in-situ measurements using statistical warfare techniques and QGIS etc.
* Document and publish the results to relevant scientific communities and share knowledge with the general public public. Two papers accepted. Two posters presented in NORDSTAT 2021 and Geilo Winter School 2023. Lectures at MIT Portugal Marine Robotics Summer School 2021 and IFAC CAMS 2022 and several other internal seminars within the department.

**Peking University Beijing, China**

*Summer research intern at AI+Art Lab, PKU Christmas. 2019* – Aug. 2019

* Studied machine learning and deep learning principles, especially computer vision techniques.
* Applied and integrated motion capture algorithms [OpenPose](https://cmu-perceptual-computing-lab.github.io/openpose/web/html/doc/index.html) aboard a humanoid robot. [[video](https://www.youtube.com/watch?v=kmty0bGUTb8)]
* Demonstrated the performance of the algorithms with a robot dance show. [[video](https://www.youtube.com/watch?v=LG3HtLOEfPs)]

**Skills and interests**

**Programming:** Python, Git, C/C++, Bash, SQL, R, Julia

**Frames:** Numpy, Pandas, Scipy Matplotlib, Plotly, CUDA

**Software**: PyCharm, QGIS, Microsoft Office365, Anaconda, VS Code, Adobe Photoshop/Illustrator

**Languages:** English (fluent), Norwegian (conversational), Mandarin (mother tongue)

**Interests:** Outdoor activities (camping, hiking, cross-country skiing and diving...), Taekwondo, Dance, Music, Travel

**Awards and competitions**

2021Taekwondo WT –  [NM](https://www.sportdata.org/kampsport/set-online/popup_main.php?popup_action=results&vernr=557&active_menu=calendar) 2021, 3rd place in COMBAT, 4th in Poomsae, Norway

2019Best Popular Award, AI + Art in Robot Dance Competition, PKU, China

2017First Prize, Academic Competition in Mechanics Knowledge, JUST, China

2016 – 2017National Scholarship, MOE, China

2016Second Prize Scholarship, CSSC Huangpu Wenchon g, China

2015 - 2016 First Prize, Renmin Scholarship, M OE, China

2015National Encouragement Scholarship, MOE, China

**Publication**

[1] Yaolin Ge, André Julius Hovd Olaisen, Jo Eidsvik, R. Praveen Jain, and Tor Arne Johansen. Long-horizon informative path planning with obstacles and time constraints. IFAC-PapersOnLine, 55(31):124–129, 2022. 14th IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles CAMS 2022.

[2] Yaolin Ge, Jo Eidsvik, Tore Mo-Bjørkelund. 3D Adaptive AUV Sampling for the Classification of Water Masses. IEEE Journal of Oceanic Engineering, 2023. [accepted and underproduction]

**Recreational activities**

**Taekwondo instructor Trondheim, Norway**

*NTNUI Taekwondo* Jan. 2020 – present

* I am a Taekwondo instructor who plans and adaptstraining for all members.
* Competed in the Norwegian Championships in 2021, won 1 bronze medal in combat senior M 74+.

**Salsa line instructor Trondheim, Norway**

*NTNUI Dans*  Sept. 2021 – present

* I am involved in the organization of the weekly dance classes.

**Certificates**

**Deep Learning Specialization** Acquired: 4/15/2020, Coursera

*This is offered by deeplearning.ai, covers basic and advanced topics in deep learning with practical programming tasks, which enable me to build deep learning models and solve real-world problems.*

**Sensor Fusion** acquired: 10.08. 2020, Udacity

*The Sensor Fusion course offered by Udacity has taught me how to fuse data from multiple sensors to perceive and navigate the autonomous vehicle environment.*

**Fundamentals of Accelerated Computing with CUDA Python** acquired: 20.0 4. 2022, NVIDIA

*I have learned about how to speed up the calculation using GPU programsg using CUDA.*

**Reference**

Jo Eidsvik Department of Mathematical Sciences, NTNU

Professor [jo.eidsvik@ntnu.no](mailto:jo.eidsvik@ntnu.no) +47 7359 0153

Geir-Arne Fuglstad Department of Mathematical Sciences, NTNU

Associate Professor [geir-arne.fuglstad@ntnu.no](mailto:geir-arne.fuglstad@ntnu.no) +47 7359 1699