Yaolin Ge

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Summary

- Ph.D. candidate in the statistics group at Dept. of mathematical sciences at NTNU.
- Experience with autonomous oceanographic sampling using AUVs with CTD sensors.
- Active participant in multiple field trips in both Trondheim and the Atlantic Ocean.

Education

Norwegian University of Science and Technology **Trondheim, Norway**
Ph.D. candidate in the statistics group, Dept. Mathematical Sciences Aug. 2020 – present (expected Aug. 2023)
Thesis project: working on the MASCOT project with the objective of autonomous sampling for different ocean properties using versatile approaches including statistical modeling, AUV sampling, and satellite sensing, etc. Conducting field experiments to validate the robustness of the system.

KTH Royal Institute of Technology **Stockholm, Sweden**
MSc, Maritime Engineering, G.P.A. 4.625/5.00 Aug. 2019 – Jul. 2020
Thesis project: developed an embedded software system for underwater robots and participated in a two-week field trip in Askö, Sweden to test the performance.

Norwegian University of Science and Technology **Trondheim, Norway**
MSc, Marine Technology, G.P.A. 3.93/4.00 Aug. 2018 – Jun. 2019
Relevant project: participated in a field trip to discover a WWII wreckage and collect water quality samples in Trondheimsfjorden, Norway using LAUV-Harald, supervised by Martin Ludvigsen.

University of Strathclyde **Glasgow, United Kingdom**
International Student Exchange Program, G.P.A. 3.85/4.00 Sept. 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 Ocean Engineering, G.P.A. 3.89/4.00**,** Rank: 2/230 Sept. 2014 – Jun. 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 catenary riser (SCR) in the deep sea.
Awards: National Scholarship (top 1%), First prize in Academic Competition in Mechanics knowledge,

Experience

Norwegian University of Science and Technology **Trondheim, Norway**
Ph.D. candidate, Dept. Mathematical Sciences Aug. 2020 – present
- Designed and implemented multi-scale machine learning software systems for autonomous oceanographic sampling purposes.
- Conducted plenty of field trips in Trondheimsfjorden, Norway, and the Atlantic Ocean to validate the performance of the system.
- Collaborate and communicate closely with multiple customers including SINTEF Ocean, AURLab NTNU, LSTS, MARETEC for knowledge dissemination to foster novel ideas.
- Analyze big *in-situ* CTD datasets using Python and statistical modeling techniques.
- Document and publish the results to relevant stakeholders and clients and share knowledge with the public. Two papers were accepted.

Peking University **Beijing, China**
Summer research student at AI+Art Lab, PKU Jul. 2019 – Aug. 2019
- Studied machine learning and deep learning principles, particularly computer vision techniques.
- Applied and integrated motion capturing algorithms *OpenPose* onboard a humanoid robot. [video]
- Demonstrated the performance of the algorithms with a robot dance show. [video]

Skills & Interests

Programming: Python, Git, C/C++, Bash scripting, Matlab, SQL, R, Julia
Frameworks: Numpy, Pandas, Scipy, Matplotlib, Plotly, CUDA
Software: PyCharm, VS Code, QGIS, Microsoft Office365, Anaconda, Adobe Photoshop/Illustrator
Language: English (full professional), Norwegian (conversational), Mandarin (native)
Interests: Outdoor life (camping, summitting, cross-country skiing ...), Taekwondo, Dance, Music, Travelling

Awards & Competitions

2021	Taekwondo WT – NM 2021, 3rd in KAMP, 4th in Poomsae, Norway
2019	Best Popular Prize, AI + Art in Robot Dancing Competition, PKU, China
2017	Merit Student, MOE, China
2017	First Prize, Academic Competition in Mechanics Knowledge, JUST, China
2016 – 2017	National Scholarship, MOE, China
2016	Second Prize Scholarship, CSSC Huangpu Wenchong, China
2015 – 2016	First Prize, Renmin Scholarship, MOE, China
2015	National 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]

Extra-curricular

Taekwondo instructor Trondheim, Norway
NTNUI Taekwondo Jan. 2020 – present

- I am a Taekwondo instructor who plans and adapts training 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: 15th-April-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.

Fundamentals of Accelerated Computing with CUDA Python acquired: 20th-April-2022, NVIDIA
I have learned about how to speed up the calculation using GPU programsg using CUDA.

Reference

Jo Eidsvik	Dept. of Mathematical Sciences, NTNU	
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Tore Mo-Bjørkelund	Skarv Technologies AS	
Head of Operations	tore.mo-bjorkelund@ntnu.no	+47 9028 8012