

# Yaolin Ge

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



## Summary

- Ph.D. candidate in the statistics group at Dept. of mathematical sciences at NTNU.
- Experience with data-driven machine learning software system development.
- Experience with computer vision, data analytics, and statistics.
- Practice agile methodologies and test-driven development in a daily routine.

## Experience

### Norwegian University of Science and Technology

Trondheim, Norway

*Ph.D. candidate, Dept. Mathematical Sciences*

Aug. 2020 – present

- Design and implement multi-scale data-driven machine learning software systems for remote sensing.
- Optimize edge computing using GPU-accelerated parallel programming using CUDA, OpenCL etc.
- Deploy and integrate the systems onboard an unmanned robot for several successful field experiments.
- Collaborate and communicate closely with multiple customers including SINTEF Ocean, AURLab NTNU, LSTS, MARETEC for knowledge dissemination to foster novel ideas.
- Document and publish the results to relevant stakeholders and clients and share knowledge with the public. Three papers were accomplished.

### 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](#)]

## Education

### Norwegian University of Science and Technology

Trondheim, Norway

*Ph.D. candidate, Dept. Mathematical Sciences*

Aug. 2020 – present (expected Aug. 2023)

Thesis project: Developing multi-scale machine learning software systems for data analytics purposes to boost the autonomy of robotic oceanographic sampling.

### 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 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 – Jun. 2019

Relevant project: Developed numerical prediction system for the lifting forces of a propeller.

### 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.

## Skills & Interests

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

**Frameworks:** TensorFlow, CUDA, OpenCL, Numpy, Pandas, Scipy, Matplotlib, Plotly

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

**Language:** English (full professional), Norwegian (conversational), Mandarin (native)

**Interests:** Outdoor life (camping, sailing, skiing hiking ...), Taekwondo, Dance, Music, Travelling

## Awards & Competitions

2023	NTNUI Yngling Sailing Cup, 2 <sup>nd</sup> out of 12, Norway
2021	Taekwondo WT – NM 2021, 3 <sup>rd</sup> in KAMP, 4 <sup>th</sup> in Poomsae, Norway
2019	Best Popular Prize, AI + Art in Robot Dancing Competition, PKU, China

## 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.*

### Software Design Methods and Tools

acquired: 15<sup>th</sup>-April-2020, University of Colorado

*I have learned various methods and tools to create and analyze software designs.*

### Fundamentals of Accelerated Computing with CUDA Python

acquired: 20<sup>th</sup>-April-2022, NVIDIA

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

### CS50

acquired: 26<sup>th</sup>-March-2023, Harvard University

*CS50 is an introductory computer science course taught at Harvard University that covers fundamental concepts in programming, algorithms, data structures, and web development.*

## Reference

Jo Eidsvik Professor	Dept. of Mathematical Sciences, NTNU jo.eidsvik@ntnu.no	+47 7359 0153
Geir-Arne Fuglstad Associate Professor	Department of Mathematical Sciences, NTNU geir-arne.fuglstad@ntnu.no	+47 7359 1699
Tore Mo-Bjørkelund Head of Operations	Skarv Technologies AS tore.mo-bjorkelund@ntnu.no	+47 9028 8012

## 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 Classification of Water Masses. IEEE Journal of Oceanic Engineering, 2023.

[3] **Yaolin Ge**, Jo Eidsvik, André Julius Hovd Olaisen. Robotic exploration of a river plume system using a flexible cost valley concept. Field Robotics, 2023 [submitted]