# Yaolin Ge

Alfred Getz' vei 1, 7034 Trondheim | +47 92526858 | https://geyaolin.com | 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 edge computing, data analytics, and Bayesian 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.

## 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, R, Git, C/C++, Bash scripting, Matlab, SQL, 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, 2nd out of 12, Norway
2021 Taekwondo WT – NM 2021, 3rd in KAMP, 4th in Poomsae, Norway

## 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: 15th 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: 20th-April-2022, **NVIDIA**
*I have learned about how to speed up the calculation using GPU programs using CUDA.*

**CS50** acquired: 26th-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<br>Professor | Dept. of Mathematical Sciences, NTNU<br>jo.eidsvik@ntnu.no | <br>+47 7359 0153 |
| Geir-Arne Fuglstad<br>Associate Professor | Department of Mathematical Sciences, NTNU<br>geir-arne.fuglstad@ntnu.no | <br>+47 7359 1699 |
| Tore Mo-Bjørkelund<br>Head of Operations | Skarv Technologies AS<br>tore.mo-bjorkelund@ntnu.no | <br>+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]