**Yaolin Ge**

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**PERSONAL INFORMATION**

Date of Birth: October 20, 1996

Place of Birth: Shaanxi, China

Citizenship: Chinese

Gender: Male

**EDUCATION**

Aug. 2019 – Present **KTH Royal Institute of Technology, Stockholm, Sweden**

**M.S. Maritime Engineering**

Aug. 2018 – Jun. 2019 **Norwegian University of Science and Technology, Trondheim, Norway**

**G.P.A. 3.93/4.00**

**M.S. Marine Technology**

Sept. 2017 – Jan. 2018 **University of Strathclyde, Glasgow, United Kingdom**

**G.P.A. 3.85/4.00**

**B.S. Naval Architecture & Ocean and Marine Engineering**

Sept. 2014 – Jun. 2018 **Jiangsu University of Science and Technology, Zhenjiang, China**

**G.P.A. 3.89/4.00**

**B.S. Naval Architecture & Ocean Engineering**

**RESEARCH EXPERIENCE**

Aug. 2019 – present **Research on the underwater navigation system (M.S. Degree Project)**

KTH & Swedish Maritime Robotics Centre (SMaRC), Stockholm, Sweden

* Reviewed the common navigation system for underwater vehicles such as LBL, USBL, SBL, INS etc.
* Investigated the core components of the long-baseline system for underwater communication system as well as navigation system
* Studied the advanced estimation algorithms such as EKF, UKF, CMF & QMF for active sonar detection and range estimation purposes
* Planned to conduct field trips to evaluate the performance of the model

Supervisors: Martin Ludvigsen, Professor; Peter Sigray, Professor

Jan. 2019 – Jun. 2019 **Research on the acoustic sensing seabed survey of a virgin wreck site**

AURLab & Dept. of Marine Technology (NTNU), Trondheim, Norway

* Studied the seabed sensing survey equipment, such as LAUV Fridtjøf with sensors like SSS (side-scan sonar), CTD profiler, DVL, GPS, Camera etc.
* Planned the appropriate preliminary underwater survey paths considering the bathymetry & topology of the seabed, and designed control schemes
* Conducted the field trip on board R/V Gunnerus to collect data
* Post-processed and documented the acoustic images for further research

Supervisor: Martin Ludvigsen, Professor

Jan. 2019 – Jun. 2019 **Project on the design and analysis of underwater robotics**

KTH & Swedish Maritime Robotics Centre (SMaRC), Stockholm, Sweden

* Designed a new generation underwater robotics based on Eelume
* Investigated the MPC & LQR performance on the trajectory simulation
* Conducted the manoeuvring simulation and hardware-in-the-loop testing
* Delivered the presentation to the clients including professors & fellows

Supervisor: Ivan Stenius, Associate Professor

**PROFESSIONAL QUALIFICATIONS**

**Personal Skills:**

Programming language with C, C++, Python & MATLAB; CAD modelling with Solidworks/AutoCAD; Embedded system programming with MPLAB X IDE; Simulation with Simulink (Simscape Electrical/ SimEvents/DSP); Computer Vision with OpenCV; Robotics development with ROS; 3D FDM printing; Microsoft Office; Latex

**Languages:**

English (fluent)

Chinese (native)

**AWARDS**

2019 Intel® Edge AI Scholarship, Intel

2019 Best Popular Prize, AI + Art in Robot Dancing Competition, PKU

2017 Merit Student, MOE

2017 First Prize, Academic Competition in Mechanics Knowledge, JUST

2016 – 2017 National Scholarship, MOE

2016 Second Prize Scholarship, CSSC Huangpu Wenchong

2015 – 2016 First Prize, Renmin Scholarship, MOE

2015 National Encouragement Scholarship, MOE

2015 Second Prize, Decelerator Assembly & Disassembly Contest, JUST

2014 Honourable Mention, CMIH Simulation Model Design Contest, JUST

2014 First Prize, Diesel Engine Assembly & Disassembly Contest, SIYANG

**PROFESSINOAL MEMBERSHIPS**

The Royal Institute of Naval Architects (RINA)

Kongl. Skeppssällskapet

**EXTRA-CURRICULAR**

Jan. 2020 – Present **Sensor Fusion NanoDegree Graduate, Udacity**

* Applied Ransac and KD-Tree based Euclidean clustering algorithms for detection and tracking of autonomous vehicles using Lidar data
* Studied common sensors for machine perception such as Radar/Camera etc.
* Worked with simulators to merge all sensing data

Jul. 2019 – Aug. 2019 **Summer campus program in Robotic Dancing, PKU, China**

* Studied the deep learning principles and applied openpose algorithm
* Conducted the motion capture technique for the robotics and converted the 2D motion to 3D skeletons for further mapping to robotic motion
* Programmed Yanshee Robot to dance following human motions

Oct. 2014 – Jun. 2018 **Team Member**

Student Volunteer Association, Zhenjiang, China

* Participated in local and on-campus volunteering activities regularly

**REFEREES:**

Hedvig Kjellström Dept. of Intelligent Systems, KTH

Professor [hedvig@kth.se](mailto:hedvig@kth.se) +46 8 790 69 06

Ivan Stenius Dept. of Aeronautics and Vehicle Engineering, KTH

Associate Professor [stenius@kth.se](mailto:stenius@kth.se) +46 70 288 82 63

Martin Ludvigsen Dept. of Marine Technology, NTNU

Professor [martin.ludvigsen@ntnu.no](mailto:martin.ludvigsen@ntnu.no) +47 91897272

**INTERESTS**

Running, bicycling, swimming, fitness training, cross-country skiing