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	+46 8 790 69 06
Ivan Stenius	Dept. of Aeronautics and Vehicle Engineering, KTH	
Associate Professor	stenius@kth.se	+46 70 288 82 63
Martin Ludvigsen	Dept. of Marine Technology, NTNU	
Professor	martin.ludvigsen@ntnu.no	+47 91897272

INTERESTS

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