Xiaotong Li

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EDUCATION AND TRAINING

Master of Science
Technische Universiteit Delft [01/09/2023 – Current]

City: Delft
Country: Netherlands
Website: https://www.tudelft.nl
Field(s) of study: Robotics

Bachelor of Engineering
Nanjing University of Aeronautics and Astronautics [01/09/2019 – 20/06/2023]

City: Nanjing
Country: China
Website: https://en.wikipedia.org/wiki/Nanjing_University_of_Aeronautics_and_Astronautics
Field(s) of study: Aerospace Engineering
Final grade: 89/100
Thesis: Gradient Enhanced Neural Networks for Optimization of Airfoils

Summer School
Korea Advanced Institute of Science & Technology (KAIST) [01/07/2022 – 31/07/2022]

City: Daejeon
Country: South Korea
Website: https://www.kaist.ac.kr/en/
Field(s) of study: Robotics

WORK EXPERIENCE

ROS Engineer(Intern)
Bayer Crop Science Co. Ltd. [01/07/2023 – 20/08/2023]

City: Shanghai
Country: China

Use Isaac Sim to build a vivid-to-life simulation platform of automated guided vehicles in a setting of intelligent agriculture.

ROS Assistant Engineer(Intern)
BJROBOT Technology Co. Ltd. [20/04/2023 – 01/06/2023]

City: Beijing
Country: China

Develop TurtleBot3 to do multiple missions(reduplicate the function of Autorace).

PROJECTS

Two-stage Multi-UAV Planning Solution Combining A*, Model Predictive Control, and Artificial Potential Field
[12/2023 – 01/2024]

We presented a global and local two-stage multi-UAV planning solution that incorporates A*, model predictive control (MPC), and artificial potential field (APF) to realize the path planning of UAV clusters in dynamic environments. This navigation solution can empower multiple UAVs to avoid obstacles and collaborate in complex environments.

Link: https://youtu.be/RkOqEFh1KFM

Gradient Enhanced Neural Networks for Optimization of Mars Low Reynold Number Airfoil

[04/2022 – 04/2023]

- Calculated aerodynamic parameters of airfoils at different angles of attack, Ma numbers and Re numbers.
- Constructed mSANN with TensorFlow using aerodynamic parameters and corresponding gradient information as training samples.
- Optimized Mars low Reynolds number airfoil design by using mSANN as a surrogate model coupled with gradient optimization software package SNOPT.

Dynamic Formation Transformation and Obstacle Avoidance of Unmanned Vehicles

[03/2021 – 03/2022]

- Implemented autonomous obstacle avoidance based on slam and multi-vehicle communication through wireless networking, mainly implemented the control of unmanned vehicles through the ros system.
- Implemented mapping and navigation functions with ros, and conducted simulation tests with the gazebo.
- Nominated to the 15th National College Student Innovation and Entrepreneurship Annual Conference.

HONOURS AND AWARDS

First Prize of Academic Scholarship

Nanjing University of Aeronautics and Astronautics [04/2022]

First Prize of Academic Scholarship

Nanjing University of Aeronautics and Astronautics [04/2021]

First Prize of Academic Scholarship

Nanjing University of Aeronautics and Astronautics [04/2020]

Second Prize of Outstanding Student Scholarship

Nanjing University of Aeronautics and Astronautics [09/2021]

Second Prize of Outstanding Student Scholarship

Nanjing University of Aeronautics and Astronautics [09/2020]

Merit Student

Nanjing University of Aeronautics and Astronautics [09/2021]

Merit Student

Nanjing University of Aeronautics and Astronautics [09/2020]

COMPETITIONS

RoboCup China Open

[04/2022]

- Responsible for establishing point clouds for the depth information read by the depth camera and performing plane extraction and calculation of characteristic shapes.
- Won the second prize.

RoboMaster2021 Super Match Play Competition (Central Division)

[08/2021]

- Responsible for the function implementation of the radar station, that is, using the Yolo model to identify enemy robots and mark them on our map.
- Won the second prize.

Link: https://www.robomaster.com/en-US

The 6th Jiangsu Provincial Engineering Training Comprehensive Ability Competition for College Students

[04/2021]

- Drew the aircraft model and calculated the aerodynamic characteristics with fluent, and produced simulation animations with 3DMax.
- Won the second prize.

LANGUAGE SKILLS

Mother tongue(s): **Chinese**

Other language(s):

English

LISTENING B2 **READING** C2 **WRITING** C1

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

HOBBIES AND INTERESTS

Photography

Music