

# Wang Han (王晗)

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🏠 <https://wanghan.pro>



## EDUCATION

### Nanyang Technological University

Jan.2017-Jun.2021

Ph.D in Electrical & Electronic Engineering

Robotics & Computer Vision

### Nanyang Technological University

Aug.2012-Jun.2016

Bachelor's Degree in Electrical & Electronic Engineering

First Class Honors

### Xi'an Jiaotong University

Aug.2011-Dec.2011

Received Singapore SM3 scholarship and transferred to NTU

## PUBLICATIONS

More information can be found in my home page <https://wanghan.pro>

**H.Wang**, C.Wang, L.Xie, " Online Visual Place Recognition via Saliency Re-identification", in 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).

**H.Wang**, C.Wang, L.Xie, "Intensity Scan Context: Coding Intensity and Geometry Relations for Loop Closure Detection", in 2020 IEEE International Conference on Robotics and Automation (ICRA).

**H.Wang**, L.Chen, M.Ran and L.Xie, " A Binary Content-Based Fast Loop Closure Detection", in 2019 IEEE 14th International Conference on Control and Automation (ICCA), June 2019. pp. 1563-1568.

**H.Wang**, M.Cao, H.Jiang and L.Xie, "Feasible Computationally Efficient Path Planning for UAV Collision Avoidance", in 2018 IEEE 14th International Conference on Control and Automation (ICCA), June 2018, pp. 576-581.

L.Chen, M.Ran, **H. Wang** and L.Xie, " MPC based Unified Trajectory Planning and Tracking Control", in 2019 IEEE 14th International Conference on Control and Automation (ICCA), June 2019. pp. 374-380.

## SKILLS & PROFICIENCY

Research	<b>simultaneous localization and mapping (SLAM)</b> <b>path planning &amp; trajectory optimization</b> <b>visual place recognition (VPR)</b>
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<b>Engineering</b>	<b>3D printing</b> <b>robotics operating system (ROS)</b> <b>unmanned aerial vehicle (UAV)</b> <b>internet of things (IoT)</b>
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## RESEARCH / PROJECT EXPERIENCE

More information can be found in my home page <https://wanghan.pro>

### Active Mapping and Navigation for Warehouse AGV

Developing robust MPC based path planning and SLAM algorithm to enable autonomous warehouse AGV navigation without any landmarks.

### UAV Collision Avoidance for Aircraft Inspection

Building a UAV platform equipped with UWB for aircraft inspection. Developing a light weight collision detection module and collision avoidance algorithm for UAV platform.

### Micro-controller based speech recognition for UAV manipulation

Implementing speech recognition on STM32 and use voice to manipulate drones.

### Underwater signal exploration and source localization

Developing an underwater signal detection module and identify the signal location.

### UGV Scheduling for Container Terminal Operation

Designing an optimal task distribution approach for container terminal operation. Simulating real terminal environment and demonstration algorithm with multiple robots.

## EMPLOYMENT HISTORY

<b>STMicroelectronics (R&amp;D)</b>	Jan.2016-May.2016
<b>ST Electronics (ST Robotics Center @ NTU)</b>	Aug.2016-May.2018
<b>Delta (Research Center @ NTU)</b>	Jun.2018-Jun.2021
<b>Huawei Technologies, Singapore</b>	Aug.2021=Mar.2023

## SELECTED AWARDS & ACHIEVEMENTS

PRC Senior Middle 3 Scholarship (2011-2016)

NTU President Research Scholar Award 2014 & 2015 (URECA)

RobotX Maritime International Challenge 2014, Best Teamwork Award

RobotX Maritime International Challenge 2016, Team Leader, 6<sup>th</sup> place

RobotX Maritime International Challenge 2018, Judge's Special Award

**Singapore Amazing Flying Machine Competition 2015 1<sup>st</sup> Place**

**Singapore Amazing Flying Machine Competition 2016 2<sup>nd</sup> Place**

**NTU Recreational Game 1<sup>st</sup> Place (Chinese Chess)**