# Xiangyong Wen

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**EDUCATION**

**Southwest Petroleum University**, Chengdu, Sichuan, China

- B.S. in School of Mechanical Engineering — Sep 2013 – Jun 2018
  - Final year project:Path planning and Tracking of Autonomous Navigation Robot Based on Dynamic Target Detection
  - Graduated with Outstanding Thesis Award.
  - GPA(Grade Point Average): 2.81/5.0

**RESEARCH INTERESTS**

Personally, I am very keen on working with robot. Due to the limited resources of the school, I took a year out and then entered the DJI as an intern. During the internship, from machine vision to robot path planning, the direction of research and development was gradually clarified, also responsible for the path planning and decision-making of the RoboRTS framework. In the future, I hope that the planning of the robot involves more semantics, making the planning more intelligent and more in line with the target task.

**WORK EXPERIENCE**

**DJI Algorithm Engineer** Shenzhen, Guangdong, China — Aug 2018 – Now

Improve the RoboRTS framework. Participate in company projects, in this project I extract 3d-tof information, generate 2d cost maps to verify navigation party in a complex environment. And now plan to use the livox radar fusion vins to generate dense point clouds (hope to be familiar with 3d perception before starting 3d planning).

**INTERNSHIP EXPERIENCE**

**DJI Algorithm Engineer** Shenzhen, Guangdong, China — Jul 2016 – Aug 2018

**RoboRTS** — Aug 2017 – May 2018

RoboRTS is an open source software stack for Real-Time Strategy research on mobile robots, developed by RoboMaster. The motivation for this project is RoboMaster AI Challenge. In this robot challenge, multiple robots should fight with each other on a game field automatically. It would be very convenient to have a unified framework for them to integrate hardware components and implement algorithms. This project is a team work with four algorithm engineers. My work in this project are things about motion planning and decision.

**Projectile Trajectory Fitting** — Dec 2016 – May 2017

In order to improve the shooting accuracy of the RoboMaster mobile robot, I establish a projectile trajectory fitting system, which can track projectile with binocular and then obtain the trajectory of the projectile. After analyzing the trajectory, verify the Projectile equation, it can then control the gimbal of the robot

**Armor Detection** — Sep 2016 – Oct 2016

Detecting 2016 RoboMaster's robot armor, then calculate the position of the armor relative to the camera and send to the STM32 to control the gimbal.

**CAMPUS ACTIVITIES**

**Robotics Club**, Southwest Petroleum University

- Project Manager ( 1 year) & Group Leader ( 1 year) — Dec 2014 – Jun 2016
  - Organizing the Club, push the progress of project.
  - Machine design for mobile robot with cero. Also write the control logical of the robot.

**Award**

- National First Prize in RoboMaster 2015

**LANGUAGES**

- Chinese: Native language.
- English: CET-4.

**WORK SKILLS**

- C++, C, Python, Matlab,

**OTHER SKILLS**

cero, CAD,