



中国科学技术大学
University of Science and Technology of China

WANG Dong

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OBJECTIVE

Mechanical Engineering Ph.D. for 2015 Fall

EDUCATION

University of Science and Technology of China (USTC)

Major	Mechanical Design & Manufacturing with Automation
Department	Precision Machinery and Precision Instrumentation (PMPI)
School	School of Engineering Science
Degree	Bachelor of Engineering with Honors (Expected June 2015)
Rank	6/63 Overall GPA: 3.72/4.3 (88.12/100)
Interest	Robotics, Automatic control, MCU programming, Computer Technology

RESEARCH EXPERIENCE

07/2014 – Present **Study of a New Method for Fabricating Compound Micro-/nanoparticles**

(National University Student Innovation Program)

Supervised by Prof. Ronald Xu (USTC), Prof. SI Ting (USTC)

In charge of the design and debug of the experimental device, and the experiment with two others.

- Using flow focusing technique to make micro-/nanoparticles. Change the air pressure and liquid flow rate to control the size of the droplets.
- Device to make microcapsules. The ultimate objective is to make nano-sized capsules with PLGA outside and medicines (curcumin, etc.) inside.
- Experiments to support the theoretical result of flow focusing with coaxial capillary tubes.

06/2014 – Present **Goggle Navigation System for Cancer Resection Surgery Using Google Glass and Projector**

Supervised by Prof. Ronald Xu (USTC), Prof. SHAO Pengfei (USTC)

In charge of programming and testing of the codes.

- Using NIR camera to capture the fluorescence image generated by ICG of tumor only.
- Using Google Glass to capture the real-time video and transmit to PC to merge with the fluorescence image, or using a projector to project the fluorescence image directly onto the surgery site.

- 07/2013 – 10/2013 Development of Self-balancing Robot with Double Wheels
Supervised by Prof. KONG Fanrang (USTC)**
In charge of the mechanical structural design, circuitry and programming of the robot.
- A robot with only two parallel wheels, going around without falling down.
 - Sensors include an accelerometer and a gyroscope, which collect the positional and angular information.
 - Using the MCU to gather data from sensors and using PID control strategy to control the speed of the wheels to keep the balance of the robot.
- 06/2012 – 10/2012 Development of an Outdoor Robot with Computer Vision
Supervised by Prof. ZHAI Chao (USTC)**
In charge of the circuitry and programming of the robot.
- Object recognition system (based on Open CV) which can navigate the robot through certain roads with markers around the corners.
 - Mechanical control system which could accurately complete the action of fetching a certain object, and the action of going up the stairs.

HONORS & AWARDS

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|----------------|--|
| 11/2013 | Cuncaoxin 859 Scholarship (top 10%) |
| 12/2013 | Outstanding Organization Award in RoboGame Robot Competition |
| 11/2012 | Cuncaoxin 859 Scholarship (top 10%) |
| 09/2012 | First Place in RoboGame 2012 Robot Competition (1/14 teams) |
| 11/2011 | Scholarship for Outstanding Freshman of 2011 (Bronze Award) |

LEADERSHIP

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| 2013 – Present | Minister at Ministry of Technology in Student Robot Club |
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ENGLISH PROFICIENCY

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| GRE | Total: 317/340 (Verbal 149/ Quantitative 168/ Analytical Writing 3.0) |
| TOEFL | Total: 91/120 (Reading:24/ Listening:26/ Speaking:18/ Writing:23) |

CUMPUTER SKILLS

C, C++, MFC, ASM, Java / Embedded System, GNU Linux / AutoCAD, UG NX / OriginLab

For more details, please refer to my homepage: <http://home.ustc.edu.cn/~bighead>