

YITIAN ZHANG

School of Material Science and Engineering
Huazhong University of Science and Technology, P.R. China
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EDUCATION

Huazhong University of Science and Technology (HUST), School of Material Science and Engineering Wuhan, China
B.E. in Material Shaping & Control Sept 2016 – June 2020 (expected)

- Total GPA: 87.44/100 (3.87/4.0)
- Last year GPA: 89.63/100 (3.92/4.0)

Selected Courses

C++, Theoretical Mechanics, Material Mechanics, Fluid Mechanics, Theory of Machines and Mechanisms, Machine Design, Foundation of Mechanical and Manufacture, Metallography Heat Treatment, Analogue Electronics, Digital Circuits, Principal of Microcomputer, Fundamentals of Material Forming Theory, Foundations of CAD technology, Hydraulic, Foundation of Engineering Control, Engineering Measurement Technology

National University of Singapore (NUS)

Visiting Student, Research Assistant

Singapore

Jul 2019 – Oct 2019

- Research Assistant advised by Prof. Marcelo H. Ang Jr. at Advanced Robotic Center

National Tsing Hua University

Exchange Program, sponsored by National Tsing Hua University

Hsinchu, Taiwan

Oct 2019-Jan 2020

Selected Courses

Computer Vision, Signals and Systems, Deep reinforcement learning

RESEARCH INTERESTS

Keywords: Computer Vision, Deep learning

- Detect defects by Image Processing
- Using Semantic Segmentation to do classifications

RESEARCH EXPERIENCE

National University of Singapore (NUS)

Research Assistant, supervisor: Prof. Marcelo H. Ang Jr.

Singapore

Jul 2019 – Oct 2019

- **Research topic: Classifying the structure of buildings by semantic segmentation**
- Help to build the dataset of this project.
- Study machine learning systematically and do literature review on Semantic Segmentation.
- Build models based on FCN for testing.

School of Material Science and Engineering, HUST

Research Assistant, supervisor: Prof. Zhongwei Li

Wuhan, China

Jan 2019 – June 2019

- **Research topic: Three-Dimensional reconstruction of workpiece**
- Use an algorithm based on Dijkstra to find the path of the lowest cost between three specific points
- Do literature review about methods for crack detection including traditional ways and methods based on machine learning.

School of Material Science and Engineering, HUST

Research Assistant, supervisor: Prof. Yunsheng Zhang

Wuhan, China

Aug 2018 – Dec 2018

- **Research topic: Defects detection in SEM images of metal coating**
- Using image processing to detect the cracks in SEM images

COURSE PROJECTS

Deep reinforcement learning

- Designed models to classify images by CNN and softmax regression.
- Implementation and improvement of Fully Convolutional Networks.

Computer Vision

- Designed functions of gaussian smooth, sobel edge detection, structure tensor and non-maximal suppression to implement Harris Corner Detection.
- Designed functions to implement Image Sensing Pipeline.
- Camera Calibration & Homography Transformation.

Machine Design

- Designed a Double-stage cylindrical gear reducer
- Drew relevant assembly drawing and parts drawing by AutoCAD.

CAD for Die and Mould

- Designed a system of mold for manufacturing by UG

SELECTED AWARDS AND HONORS

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|---|------------------|
| • National Computer Rank Examination Certificate of Level 4/3/2 | 2016, 2017, 2018 |
| • Excellent Student Leader | 2018 |
| • Excellent League Cadres | 2018 |
| • Excellent League Members | 2017, 2018 |
| • Excellent Student Leader | 2017, 2018 |
| • Outstanding Graduates of Training Camp for Elite College Students | 2018 |
| • Freshman Scholarship | 2016 |

ADDITIONAL INFORMATION

Extracurricular Experiences

- Minister, Department of Human Resources, Enrollment Association of School of Huazhong University of Science and Technology (2017-2018)
 - Helped to design the constitution of this association, organized school activities such as the return visits to high school, cadre training, bureau meeting and so on; Learned teamwork, communicating and organizing skills
- Deputy Minister, Department of Human Resources, Student Union of Huazhong University of Science and Technology (2017-2018)
 - Organized school activities such as welcome party, alumina return, cadre training, bureau meeting and so on; Learned proposal writing, communicating and organizing skills
- A volunteer teacher in rural area (7.5-7.28, 2016)
 - Worked as a head teacher of primary students for three weeks and learned how individual could make a difference to this world.

Computer and Language Skills

- Languages: Mandarin (Native); English (Fluent); TOEFL: 95 (Reading 28, Listening 21, Speaking 22, Writing 24); GRE: 324+3.5 (V: 154, Q: 170, AW: 3.5)
- Technical skills: C++, python, UG, AutoCAD, LATEX, SPSS

Interests

- Football, Photography