YITIAN ZHANG

School of Material Science and Engineering
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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)
- Rank in major: 23/172
- 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)   Singapore
Visiting Student, Research Assistant   Jul 2019 – Oct 2019

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

National Tsing Hua University   Hsinchu, Taiwan
Exchange Program, sponsored by National Tsing Hua University   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)   Singapore
Research Assistant, supervisor: Prof. Marcelo H. Ang Jr.   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   Wuhan, China
Research Assistant, supervisor: Prof. Zhongwei Li   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   Wuhan, China
Research Assistant, supervisor: Prof. Yunsheng Zhang   Aug 2018 – Dec 2018

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

COURSE PROJECTS

Deep reinforcement learning

- Designed models to classify images by CNN and softmax regression.

Computer Vision

- Designed functions of gaussian smooth, sobel edge detection, structure tensor and non-maximal suppression.
- Used the four functions above to implement Harris Corner Detection.
- Designed functions to implement Image Sensing Pipeline.

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

• 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)
  - Organized school activities such as welcome party, alumina return, cadre training, bureau meeting and so on; Learned proposal writing, 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: 91 (Reading 22, Listening 21, Speaking 23, Writing 25); GRE: 318+3.5 (V: 149, Q: 169, AW: 3.5)
- Technical skills: C++, python, UG, AutoCAD, LATEX, SPSS

Interests
- Football, Photography