Yihua Zhang

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Education

Huazhong University of Science and Technology (HUST) **Wuhan, China**
09/2015–06/2019
Major: Mechanical Design, Manufacturing and Automation; **GPA:** 3.98/4.00
Bachelor of Engineering, June 2019; School of Mechanical Science & Engineering & Qiming College
Honors: National Scholarship(2016–2017), National Scholarship(2017–2018), First Class Honor Graduation
Ranking: 2/298
Main courses: Advanced Programming Language C++, Computer Networks and Its Applications, Computer Graphics and CAD, Digital Circuits, Principles of Microcomputer, Calculus, Linear Algebra, Numerical Methods, Probabilistics
Teaching Assistant: Theoretical Mechanics(for international students)

RWTH Aachen University, Exchange program **Aachen, Germany**
10/2018–06/2019
Mechanical Engineering, School of Mechanical Engineering;

Academic Explorations

Research Project: Trustworthy Machine Learning
10/2020–Present
Advisor: Prof. Sijia Liu
- To evaluate existing adversarial machine learning methods.
- To design certifiable methods against adversarial attacks and enhance the robustness of different models.

Tools: Python, Pytorch

Research Project and Thesis: Pose and Face Tracking In Thermal Images using Depth Sensing and Image Registration 11/2018–06/2019
Advisor: Prof. Christoph Van Treeck
It aimed at estimating the human thermal comfort levels with a depth and a thermal sensor using computer vision algorithms.
- Developed algorithms for image registration and co–calibration in the multi–sensor system;
- Designed deep neural network structures for fine scale 3D segmentation.
- Wrote the bachelor thesis on this topic.

Tools: Python, Pytorch

Research Project: Development of A Close–Range Photogrammetry System
03/2016–06/2018
The State Key Laboratory of Digital Manufacturing Equipment and Technology
Advisor: Prof. Wenlong Li
- Developed computer vision algorithms for detecting and decoding the encoded markers on the workpieces;
- Modified the typical SFM algorithms to reconstruct the 3D model of the sparse point cloud;
- Accelerated the algorithms and improved the robustness of the system;
- Developed GUI based on MFC for Windows;

Tools: C++, OpenCV, g2o, Eigen

Internships

JD AI Research **02/2021–Present**
Research Intern

Ant Financial, Alibaba Group **06/2020–09/2020**
Java cyber–security Engineer
- Developed the File reinforce and distribution platform for Ant's data protection.
- Developed file reinforcement capabilities including invisible watermark, data desensitization and file encryption.
- Tools: Java, SOFA Boot, SOFA RPC, Antq

Shining 3D Tech Co. Ltd **03/2020–05/2020**
Computer Vision Algorithm Engineer
- Developed parallel acceleration algorithms for 3D point cloud fusion with GPU, enhanced fusion frame rate from 15fps to 30fps under the condition of 0.1mm dot pitch.
- Developed compression algorithms for large-scale point cloud data, with over 60% compression rate.
- Tools: C++, OpenCV, PCL

Sichuan Tashi Technology Co., Ltd **06/2018–08/2018**
Computer Vision Algorithm Engineer
- Developed an APP automatically counting the number of plates for a large catering company using computer vision;
- Developed efficient OCR solutions for super-wide-angle images with more than 100 million pixels.
- Tools: C++, OpenCV

Honors & Awards

National Scholarship, by Ministry of Education of China (Top2%) **09/2017**
National Scholarship, by Ministry of Education of China (Top2%) **09/2016**
Festo Scholarship, by Festo AG & Co(Top1%) **04/2017**
Champion Group Member, team competition, HUST Badminton Competition **11/2017**

Tests

TOEFL: 107 (R28 L26 S25 W28)
10/26/2019
GRE: 331 (V161 Q170 AW4.0)
11/12/2019

Skills

Computer Skills: Python, C++, Java, C, Matlab, and LaTeX;
OS Experience: Linux, ROS and Windows.
Modeling Skills: Inventor, Solidworks, AutoCAD, and 3D printing software;
Language: native Chinese Mandarin, advanced English, and advanced German;
Hobbies: Piano, Guitar, Badminton, and Photography.