

Ziqin Shang

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EDUCATION BACKGROUND

Central South University (CSU) *A key university of China listed in "Project 985 & 211"* **Sept. 2017- Jun. 2021**

School: School of Aeronautics and Astronautics

Major: Bachelor of Detection, Guidance and Control Technology

GPA: 83.5/100

- ❖ **Academic Year Scholarship granted by CSU** **2018-2020**
- ❖ **Merit Award in 2019 National College Students' English Creative Contest** **2019**
- ❖ **Meritorious Winner in 2019 Interdisciplinary Contest In Modeling** **2019**

Rice University (RU)

August.2021 - present

School: George R. Brown School of Engineering

Major: Master of Electrical and Computer Engineering

GPA: 3.66/4

ACADEMIC EXPERIENCE

Undergraduate Graduation Design(Thesis) **Nov.2020-Jun. 2021**

- ❖ Develop face detection system using SSD algorithm with Resnet-10 backbone and based on Atlas 200 DK hardware
- ❖ Design driver violation detection algorithms based on deep learning and implement them on the cloud environment and hardware
- ❖ The design result is rated as "*Excellent*"

Production Practice

Jul. 2020-Aug.2020

- ❖ Completed the task of detection and recognition based on multi-source information fusion
- ❖ Understood the imaging mechanism of sensors and image fusion technology. Program to achieve the fusion of infrared and visible images on MATLAB using PCA, Wavelet Transform and Laplacian Pyramid Transform
- ❖ Practiced in Shenyang Institute of Automation, Chinese Academy of Sciences to understand the work of R&D
- ❖ The practice result is rated as "*Excellent*"

Pattern Recognition Practice

Jun. 2020

- ❖ Achieved semantic segmentation of image based on MATLAB and Python and mIOU is over **90%**.
- ❖ The practice is based on supervised learning, concentrating on the CamVid dataset, etc. Preliminarily accomplished the semantic segmentation under the SegNet network structure with the application of hole convolution and layer hopping link

Research on the Technology of Automatic Designated Release of Parachute (College Students' Innovation & Entrepreneurship Training Program)

Group Member

Mar. 2019-Mar. 2020

In this program, we intend to modify the parachute by integrating it with control cable, connecting band, load and control system for equipping it with the positioning function to land in the designated position while loading.

- ❖ Responsible for software simulation, designing the umbrella surface and assembly
- ❖ Conducted simulation on the optimal trajectory of the parachute, calculated the lift-to-drag ratio of the umbrella under different circumstances
- ❖ The project was approved and elected as a *national project*, and rated as *Excellent* in the acceptance check

Image Processing Practice

Dec. 2019

- ❖ Performed image classification to given characters through programmed algorithm using MATLAB, recognized characters of the image in the test and output the result
- ❖ Calculated all particles in a black and white image, and generated three images containing isolated, overlapping and bordered particles separately

Course Exercise in Electronic Technology

Jul. 2019

- ❖ Utilized the knowledge of digital circuit, design and simulate traffic light control circuit by using Multisim
- ❖ Built up the actual designed circuit and make it have the functions of start-up and emergency switch, ensure its normal operation in real life.
- ❖ The course design was rated as "*Excellent*".

EXTRACURRICULAR EXPERINECE

Leader of Publicity Department, Youth League Union of the School of Aeronautics and Astronautics

Jun. 2018-Jun. 2019

- ❖ Managed the daily work of the department and arranged the promotional work of the school
- ❖ Published over **70** news articles (one on Youth.cn), make more than **10** videos and posters
- ❖ Proficient in photography, video and audio post-processing