HAO WANG
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EDUCATION

Present — Master of Science, Electrical Computer Engineering
Georgia Institute of Technology, Atlanta, GA
Expected graduation date: **12/2020**
Cumulative GPA: **4.0/4.0**

2019 — Bachelor of Engineering, Automation
Tianjin University, Tianjin, China
WES certified GPA: **3.77/4.0**

Standardized English Test Results

- GRE: 322 (Verbal:152 Quant: 170 Writing: 3.5) Nov, 2018
- TOFEL: 102 (Reading:26 Listening:26 Speaking:23 Writing: 27) Oct, 2018

RESEARCH EXPERIENCE

Social and Language Technologies (SALT) lab, Gatech, Atlanta
Research Assistant, **June 2020 – present**, advised by Diyi Yang
Analyzed people's mental health through social media data and text data.
Data mining, data cleaning, feature extraction and model building

Institute of Robotics and Autonomous Systems, Tianjin University, China
Research Assistant, **Oct 2018 – May 2019**, advised by Ming Zeng
Built image data set, preprocessed image data and implemented deep learning algorithms.

INTERNSHIP EXPERIENCE

Intelligence Racing, Atlanta
Teaching Assistant, May 2020 – Aug 2020
Taught python scientific programming lab sessions and office hours.
Developed python course materials and released on GitHub.

WORKS IN PROGRESS

Mental health outcome(Jun 2019 – present)

Data Augmentation on tabular data(Sep 2019 – present)

PROJECT EXPERIENCE

3D game development, Georgia Institute of Technology(Apr 2020)

- Developed a 3D third-person adventure game named Shadow of Star Raider
- Implemented game AI algorithms A star and behavior trees to control AI logic.

Estimation, Comparison and Analysis of Yellow Taxi in NYC, Georgia Institute of Technology(Nov 2019)

- Around 8 gigabyte data was used to train a LightGBM model to predict the taxi fare in NYC by pickup location and destination.
- An interactive user web page was built which can show the map of NYC by Google map and the price could be compute back-end.

Combination of Image Compression and Contrast Enhancement in Aerospace Application, Georgia Institute of Technology(Nov 2019)

- Put forward a hybrid approach to improve the visual quality of images from satellites.
- DWT-SVD, combined Huffman coding and blocking effect reduction were implemented to improve traditional methods.

Bachelor's thesis, Tianjin University(May 2019)

- Complex Text Detection on Garbage Image Data Set
- Implemented and improved Pixel-Link CNN which combines semantic segmentation and object detection on garbage image text data set. Prepare the data, improved Pixel-Link, test network and hyper-parameter tuning

Intelligent Garbage Identification and Sorting, Tianjin University(Nov 2018)

- The project aims at designing a system to sort garbage by computer vision.
- A unique garbage image data which contain thousands of labeled image set was built and a CNN network is implemented.

PIC MCU Course Design, Tianjin University(Sep 2018)

- Used PIC MCU to read three-way voltage analog values. The corresponding temperature can be calculated and displayed on the LCD screen. Simultaneously, it could communicate with the computer to set the upper and lower limits of temperature. When the temperature reached the upper or lower limit, the warning light would alert.

Image Processing Course Design, Tianjin University(May 2018)

- Implemented "Improving Histogram-based Image Contrast Enhancement Using Gray-level Information Histogram", a patent of Professor Zeng Ming, via MATLAB.
- Implemented the binarization method, the adaptive algorithm and the multilevel

quantization algorithm based on the histogram of cumulative edge gray-level transition range via MATLAB.

8086 Curriculum Course Design, Tianjin University(Apr 2018)

- Used assembly language and Intel 8086 to implement the free time settings of clocks.
- Wrote PS2 protocol code by assembly language, and used Intel 8086 to drive mouse and displayed it on the led screen.

Driverless Vehicle Lab, Tianjin University(Oct 2017)

- Wrote program to control the vehicle at low speed in real time via model predictive control.
- Wrote MATLAB program and used particle swarm optimization algorithm.

FPGA Digital Circuit Design, Tianjin University(Sep 2017)

- Designed artificial traffic lights which users could set the pass time freely.

LANGUAGE

English
Chinese

HONORS&AWARDS

Merit Student scholarship, Tianjin University(Sep 2018)
Top 15% in the Engineering department in 2017 academic year

Merit Student scholarship, Tianjin University(Sep 2017)
Top 15% in the Engineering department in 2016 academic year

Merit Student scholarship, Tianjin University(Sep 2016)
Top 15% in the Engineering department in 2015 academic year