

# SHAO-HUNG CHIU

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## EDUCATION

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### Carnegie Mellon University

Master of Science in Electrical and Computer Engineering

Research Interest: Hardware and Software Systems

Current Coursework: Foundations of Computer Systems, How to Write Fast Code (HPC), Analytical Modeling and Designs of Computer Systems

Pittsburgh, PA

December 2020

### National Tsing Hua University

Bachelor of Electrical Engineering

Overall GPA: 4.0/4.3      Major GPA: 4.19/4.3

Relevant Courses: Computer Architecture, OS, Algorithms, Digital Systems Design, Microprocessor Systems

Hsinchu, Taiwan

January 2019

## SKILLS

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### Programming Languages

C/C++, Python, MATLAB

### Tools

Verilog, Linux OS

### Languages

English, Chinese (Native)

## WORK EXPERIENCE

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### ASPEED Technology Inc.

Intern

Hsinchu, Taiwan

July 2018 - August 2018

- Researched Super Resolution algorithms within recent 2 years with low computation complexity and assisted ASPEED to evaluate potential IP usage
- Introduced Efficient Inference Engine Design to illustrate domain-specific algorithms and architecture by giving a talk to 30 staff members in ASPEED
- Built machine learning models and clarified analytical tools on several frameworks such as Caffe and Tensorflow for ASPEED's further research

### BIIC Lab

Research Assistant

Hsinchu, Taiwan

October 2017 - January 2018

- Utilized machine learning techniques on Human Behavioral Analysis, reaching almost 70% accuracy on image data
- Performed various feature extraction methods with Python package OpenCV for further analysis and better accuracy

## ACADEMIC PROJECTS

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### Self-Driving Car with Raspberry Pi

National Tsing Hua University

Hsinchu, Taiwan

January 2018 - January 2019

- Developed a lane following algorithm achieving prompt controls up to 6 frames per seconds by utilizing OpenCV and fitting polynomials with Python3.5
- Scheduled entire 2-semester project and led discussion in routine meetings
- Coordinated 4 teammates' work into 1 stable system involving XBEE, MobileNet, lane following and positioning

### Traveling Salesperson Accelerator

National Tsing Hua University

Hsinchu, Taiwan

December 2018 - January 2019

- Transferred C code to RISCV simulator with elaborate memory management and specific data structures for accurate profiling and further co-processor designs
- Designed RTL-level accelerator to boost up computations with co-processor interface, reducing 59% cycle numbers of bottleneck function