

# Hong-Ming Chiu

**Address:** 3<sup>rd</sup> Floor, No. 208, Ersheng 1<sup>st</sup> Road, Qianzhen District, Kaohsiung City 80655, Taiwan (R.O.C.)

**Phone:** (+886) 917-276-196 | **Email:** [hongmingchiu0217@gmail.com](mailto:hongmingchiu0217@gmail.com) | **Website:** <https://hong-ming.github.io>

## EDUCATION

### National Chiao Tung University (NCTU)

Hsinchu, Taiwan

*Bachelor of Science in Electronics Engineering*

Sep. 2017 – Jun. 2020

- Cumulative GPA: 4.03 / 4.3. Major GPA: 4.11/4.3.
- 2018 Spring Academic Achievement Awards: ranked 3<sup>rd</sup> out of 84 students.
- Granted Exchange Student Scholarship of USD 10,000 of academic excellence.

### National Chiao Tung University (NCTU)

Hsinchu, Taiwan

*Undergraduate – Dept. of Civil Engineering (Transfer to NCTU EE)*

Sep. 2016 – Sep. 2017

- 2016 Fall Academic Achievement Awards: ranked 3<sup>rd</sup> out of 41 students.
- 2017 Spring Academic Achievement Awards: ranked 1<sup>st</sup> out of 41 students.

### University of Illinois at Urbana Champaign (UIUC)

Champaign, IL

*Exchange Student – Dept. of Electrical and Computer Engineering (ECE)*

Jan. 2020 – May 2020

- Cumulative GPA: 3.83 / 4.0.

## RESEARCH & WORK EXPERIENCE

### NCTU Artificial Intelligence and Multimedia Lab

Hsinchu, Taiwan

*Research Assistant (full-time) (Supervisor: Prof. Wen-Huang Cheng)*

July 2020 – Present

- Worked on knowledge graph-based explainable recommender system research aiming to generate accurate and explainable recommendations in various applications.
- Assisted in arranging the 33<sup>th</sup> IPPR Conference on Computer Vision, Graphics, And Image Processing (CVGIP 2020) in Taiwan.

### UIUC Coordinated Science Lab

Champaign, IL

*Special Project on Electronics (Supervisor: Prof. Venugopal V. Veeravalli)*

Jan. 2020 – May 2020

- Built a demo for the model change detection system on a landmine dataset, which utilized machine learning algorithms to classify landmine data collected from different surface conditions.

### USC Signal Transformation, Analysis and Compression Group

Los Angeles, CA

*Summer Research (Supervisor: Prof. Antonio Ortega & Prof. Carrson C. Fung)*

Jul. 2019 – Aug. 2019

- Researched and implemented multiple graph learning methods and applications such as graph learning for kriging, variogram and Gaussian Markov random field.

### NCTU Communication Electronics and Signal Processing Lab

Hsinchu, Taiwan

*Special Project on Electronics (Supervisor: Prof. Carrson C. Fung)*

Mar. 2019 – Jul. 2020

- Research in graph learning algorithm for received signal power interpolation problem, which is an essential technology for implementing preemptive resource allocation in location-aware communications.
- Proposed a Graph Learning and Augmentation Based Interpolation approach to solve the received signal power interpolation problem with higher accuracy and lower run-time complexity.
- Sponsored by the Ministry of Science and Technology (paper published on EUSIPCO 2020).

### NCTU VLSI Signal Processing Lab

Hsinchu, Taiwan

*Special Project on Electronics (Supervisor: Prof. Tian-Sheuan Chang)*

Jun. 2018 – Jan. 2019

- Researched in adaptive pruning for Convolution Neural Network.
- Proposed an efficient run-time adaptive pruning algorithm that saves up to 50% floating-point operations (FLOP) while trading less than 10% of the top-1 accuracy.
- Sponsored by the Ministry of Science and Technology (paper published on ISCAS 2019).

## PUBLICATIONS

(code available on <https://hong-ming.github.io/#mypublications>)

- [1] **Hong-Ming Chiu**, Carrson C. Fung and Antonio Ortega, “Graph Learning and Augmentation Based Interpolation of Signal Strength for Location-Aware Communications,” 2020 European Signal Processing Conference (EUSIPCO 2020).
- [2] **Hong-Ming Chiu**, Kuan-Chih Lin and Tian Sheuan Chang, “Run Time Adaptive Network Slimming for Mobile Environments,” 2019 IEEE International Symposium on Circuits and Systems (ISCAS 2019).

## ACADEMIC PROJECTS

(demo & code available on <https://hong-ming.github.io/#myprojects>)

### Building Oscilloscope on FPGA

Fall 2018

- Implemented a simple oscilloscope using Nexys 4 DDR and printed circuit board; received the best project prize in Digital Laboratory class at NCTU.

### Huffman Coding Hardware

Fall 2018

- Implemented 8-bit Huffman coding algorithm using SystemVerilog; ranked 1<sup>st</sup> in Digital Circuits and Systems class at NCTU in terms of simulation time and synthesis area.

### Minimum Mean Cycle Problem

Fall 2019

- Designed an algorithm to solve the minimum mean cycle problem on directed graph using dynamic programming; ranked top 5 in Advanced Algorithm class at NCTU in terms of execution time.

## PROFESSIONAL ACTIVITIES

### ACM Multimedia 2020 Paper Reviewer

Oct. 2020, Seattle, WA

### IEEE-HKN Student Leadership Conference Participant

Nov. 2019, Boston, MA

## EXTRACURRICULAR ACTIVITIES

### IEEE-Eta Kappa Nu, Mu Sigma Chapter

Hsinchu, Taiwan

#### *Recording Secretary*

May 2019 – Present

- Communicated with staff in NCTU; invited foreign alumni to give a speech about previous educational and work experience in Taiwan and in the U.S.; organized workshops.

### NCTU IEEE Student Bench

Hsinchu, Taiwan

#### *Finance and Secretary*

Mar. 2019 – Mar. 2020

- Built platform for NCTU students to receive advice from foreign alumni.
- Coordinated sharing activities and alumni speeches for NCTU students.

### AIIESEC in Taiwan

Hsinchu, Taiwan

#### *Incoming Global Community Development Program Manager*

Sep. 2016 – Jul. 2017

- Organized tour around Taiwan for 8 college students from different countries.
- Organized an international cultural workshop for high school students in Hsinchu.
- Attracted international college students to come to Taiwan to work in social impact positions in rural schools.

### NCTU Department Table Tennis Team

Hsinchu, Taiwan

#### *Team Member*

Sep. 2016 – Jun. 2020

- Won 1<sup>st</sup> place in an interscholastic match in 2019.

## SKILLS & INTERESTS

### Languages

Fluent in Mandarin; Conversational Proficiency in English.

### Technical Skills

MATLAB, C++, Python, Verilog, SystemVerilog, HTML, CSS, LaTeX.

### Research Interests

Machine Learning, Optimization, Graph Learning, Communications.