

Hong-Ming Chiu

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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 3rd 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 3rd out of 41 students.
- 2017 Spring Academic Achievement Awards: ranked 1st 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)

Jul. 2020 – Feb. 2021

- Worked on knowledge graph-based explainable recommender system research aiming to generate accurate and explainable recommendations in various applications.
- Assisted in arranging the 33th 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 1st 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 – Jun. 2020

- 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 1st 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, JavaScript, LaTeX.

Research Interests

Machine Learning, Optimization, Graph Learning, Communications.