

Bill, Yan-Cheng Hsu

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PROFESSIONAL SUMMARY

2022 incoming UCSD MSCS student with 1yr research assistant experience in the area of Data Science and Machine Learning actively seeks for a *Software Position* in 2021

- ✓ Published an article on international journal as a 1st author about constructing a deep learning blood pressure estimation model
- ✓ Experienced in several computer engineering projects

EDUCATION

University of California, San Diego, CA, USA

Expected to start in 2022 Fall

Master of Science in Computer Science and Engineering

National Central University (NCU), Taoyuan, Taiwan

June. 2020

Bachelor of Electrical Engineering

GPA: 3.97/4.00

Courses: Data Structure, Algorithm, Operating System, Computer Organization, Microcomputer Theory and Laboratory

SPECIALIZED SKILLS

Programming Language: Python, C/C++, Verilog(intermediate), Java (intermediate)

Frameworks/Applications: Tensorflow, Keras, CUDA, HeartPy, Git, scikit-learn, TI-RTOS, BLE protocol

PUBLICATION

Hsu, Yan-Cheng; Li, Yung-Hui; Chang, Ching-Chun; Harfiya, Latifa N. 2020. "**Generalized Deep Neural Network Model for Cuffless Blood Pressure Estimation with Photoplethysmogram Signal Only.**" *Sensors* 20, no. 19: 5668. (Impact Factor = 3.275, Special Issue: Machine Learning and Intelligent Optimization Data Aggregation in Internet of Things)

Website: <https://www.mdpi.com/1424-8220/20/19/5668>

WORK EXPERIENCE

Research Assistant at Machine Learning and Biometric Recognition Laboratory, NCU.TW

Dec. 2019 – Sep. 2020

Deep Neural Network Blood Pressure Estimation Model (Python, Tensorflow, Keras, CUDA and HeartPy)

- ✓ Deliver a deep learning blood pressure estimation model from scratch with Mean Absolute Error (MAE) 2.73 mmHg over 2.5M+ cardiac cycles collecting from 9000 patients by introducing a new physiological feature selection algorithm based on statistics
- ✓ Achieved 6x larger on scale (0.4M v.s. 2.5M cardiac cycles used) and 1.83x more accurate (MAE: 5 mmHg v.s. 2.73 mmHg) compared to the existing model in our lab

PROJECTS

Research Intern at Intelligent Communication and Advanced Networking Laboratory, NCU.TW

Sep. 2019 – Nov. 2019

Physical Layer Authentication Classifier (Python, scikit-learn)

- ✓ Implemented and reproduced a Support Vector Machine classifier with 90% accuracy using Carrier Frequency Offset, Channel Impulse Response and Received Signal Strength Indicator for unmanned aerial vehicle

Research Intern at BioEE Laboratory, UCSD.CA

Jul. 2019 – Sep. 2019

Collaborative Computer Engineering Project "BioCoin" (C/C++, TI-RTOS and BLE protocol)

- ✓ Delivered collaborative a coin-sized and disposable biosensor with low power consumption that conducts real-time monitoring of the solution in a colostomy bag
- ✓ Constructed a Bluetooth profile based on BLE protocol between CC2650 and mobile device and a message passing system based on TI-RTOS through software interrupts between LMP91x00 and CC2650