

Yi-Te (Eeder) Hsu

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EDUCATION

Johns Hopkins University (JHU)

Baltimore, Maryland

Master of Science in Computer Science; GPA: 3.86/4.00

Aug. 2019 – Dec. 2020 (Expected)

- Relevant Courses: Machine Translation; Blockchains and Cryptocurrencies; Introduction to Human-Computer Interaction; Machine Learning; Artificial Intelligence; Introduction to Human Language Technology; Information Retrieval and Web Agents; Computer Networks

National Taiwan University (NTU)

Taipei, Taiwan

Bachelor of Science in Electrical Engineering; GPA: 3.85/4.00 (Last 60 units)

Sep. 2012 – Jan. 2017

- Relevant Courses: Algorithms; Data Science; Machine Learning; Data Structure and Programming; Computational Methods and Tools for Data Science; Discrete Mathematics; Psychoinformatics and Neuroinformatics; Probability and Statistics
- NTU Creativity and Entrepreneurship Program; NTU Leadership Development Program

SKILLS AND LANGUAGE

Machine Learning/ Deep Learning: Pytorch, Tensorflow, Keras, Scikit-learn

Languages & Toolkit: Python, C/C++, MATLAB, Ruby, R, Docker, MongoDB, HTML, CSS, JavaScript, Php, SQL

PROFESSIONAL EXPERIENCE

Machine Learning Engineer Intern

California, United State

Apple Inc.

Jun. 2020 - Aug. 2020

- Investigated the state-of-the-art model efficiency techniques for deep neural networks.
- Proposed a machine translation architecture for faster inference [1]. Achieved up to 109% speedup and reduced the number of parameters by 25% while maintaining the same translation quality in terms of BLEU.

Research Assistant

Taipei, Taiwan

Academia Sinica

Feb 2018 - Jul 2019

- Quantization on deep neural network [2]: Proposed a novel exponent-only floating-point quantized neural network (EOFP-QNN) to quantize the model. Achieved a 4x compression rate.
- Acceleration on the DNN [5]: Proposed IA-Net, which can simultaneously compress the model size and accelerate the inference process by replacing the multiplier with an integer adder without performance degradation. It improved the inference time by 1.2x

Visiting Researcher

Toronto, Canada

Vector Institute, University of Toronto

Sep. 2018 - Dec. 2018

- Healthcare Project – Robust pathological voice detection system[3]: Used bidirectional LSTM to develop an early detection system. Combined with an unsupervised domain adaptation method to solve the channel mismatch of different devices and increased target domain PR-AUC from 0.84 to 0.94.
- NLP Project – Detection of Alzheimer’s disease[4]: Proposed a method to transfer Mandarin features to English ones with the corpus of a picture description task. Combined algorithms from different languages to achieve multi-language application.

Data Scientist Intern

Taipei, Taiwan

Mobagel Inc.

Jul. 2016 - Feb. 2017

- Applied ML techniques and statistic models to extract core information from different types of IoT data.
- Product deployment: Deployed the machine learning models to real products. Cooperated with collaborators efficiently. Gained solid experience in machine learning and engineering.

PUBLICATIONS

- [1] **Yi-Te Hsu**, Sarthak Garg, Yi-Hsiu Liao and Ilya Chatsviorkin, "Efficient Inference For Neural Machine Translation" *accepted to SustaiNLP workshop at EMNLP 2020*
- [2] **Yi-Te Hsu**, Yu-Chen Lin, Szu-Wei Fu, Yu Tsao, and Tei-Wei Kuo, "A study on speech enhancement using exponent-only floating point quantized neural network (EOFP-QNN)" *accepted to IEEE Spoken Language Technology conference (SLT 2018)*
- [3] **Yi-Te Hsu**, Zining Zhu, Chi-Te Wang, Shih-Hau Fang, Frank Rudzicz and Yu Tsao, "Robustness against the channel effect in pathological voice detection" *accepted to Machine Learning for Health Workshop at NIPS 2018*
- [4] Bai Li, **Yi-Te Hsu** and Frank Rudzicz, "Detecting dementia in Mandarin Chinese using transfer learning from a parallel corpus" *accepted to Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2019)*
- [5] Yu-Chen Lin, **Yi-Te Hsu**, Szu-Wei Fu, Yu Tsao, and Tei-Wei Kuo, "IA-NET: Acceleration and Compression of Speech Enhancement using Integer-adder Deep Neural Network" *accepted to INTERSPEECH 2019*

LEADERSHIP EXPERIENCE

Director, NTUEE Chain: Built connection between alumni and undergraduate students in NTUEE.

Vice Director, Kinmen Alumni Association: Founder of the social service team to Kinmen.

Captain, Badminton Department Team: Won the championship in the annual competition among 6 cities.