Yi-Te (Eeder) Hsu

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Education

Johns Hopkins University (JHU) Baltimore, Maryland

Master of Science in Computer Science *Aug. 2019 – May. 2021 (Expected)*

- Relevant Courses: Machine Learning; Artificial Intelligence; Introduction to Human Language Technology

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

Publications

[1] 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*

[2] 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)*

[3] **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)*

[4] **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*

Professional Experience

Research Assistant Taipei, Taiwan

Academia Sinica *Feb 2018 - Jul 2019*

- Quantization on deep neural network [3]: Proposed a novel exponent-only floating-point quantized neural network (EOFP-QNN) to quantize the model. Achieved a 4x compression rate.
- Acceleration on a compressed DNN [1]: Proposed IA-Net, which can simultaneously compress the model size and accelerate the inference process by replacing the floating-point multiplier with an integer adder without performance degradation.
- Bio-signal processing: Cooperated with the otolaryngologist and speech therapist at Far Eastern Memorial Hospital in Taiwan. Combined deep learning and machine learning techniques to develop the disease classification system by the patients' voice.

Visiting Student Researcher Toronto, Canada

Vector Institute, University of Toronto *Sep. 2018 - Dec. 2018*

- Healthcare Project – Robust pathological voice detection system[4]: Used bidirectional LSTM to develop an early detection system. Combined with an unsupervised domain adaptation method to solve the channel mismatch of different devices.
- NLP Project – Detection of Alzheimer"s disease[2]: Proposed a method to transfer Mandarin features to English ones with the corpus of a picture description task. Combined algorithms from different languages to achieves multi-language application.

Data Scientist Internship Taipei, Taiwan

Mobagel Inc. *Jul. 2016 - Feb. 2017*

- Applied ML techniques and statistic model to extract core information from different types of IoT data. Applied unsupervised machine learning methods to detect anomalies with unlabeled data
- Predicted the office space occupancy rate for 85% accuracy with the time-series data for 6 months from real-time sensors.
- Product deployment: Deploy the machine learning models to real products. Cooperate with collaborates efficiently. Gained solid experience in machine learning and engineering.

Skills and Language

Machine Learning/ Deep Learning: Pytorch, Tensorflow, Keras, Scikit-learn
Language: Python, C/C++, MATLAB, Ruby, R
Software Development: Docker, MongoDB, HTML, CSS, JavaScript, Php, SQL, Ruby on rail

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.