Cheng-Ping (Jackson) **Hsieh**

(+886) 932-329-263 | c2hsieh@ucsd.edu | hsiehjackson | hsiehjackson | cheng-ping-hsieh

EDUCATION

University of California San Diego (UCSD)   **La Jolla, CA**
Master of Science in Computer Science   *(Defer) Sep 2021 -*

National Taiwan University (NTU)   **Taipei, Taiwan**
Bachelor of Science in Electrical Engineering (GPA: 3.92/4.0)   *Sep. 2015 - Jan. 2020*

– Coursework: Machine Learning, Applied Deep Learning, Digital Speech Processing, Algorithms, Data Structure, Computer Networks, Computer Architecture, Computer Cognitive, Web Programming

SKILLS

Programming Languages   Python(PyTorch, Tensorflow), JavaScript (Node.js, React), HTML/CSS, C/C++
Software Knowledge   Git, Docker, Kubernetes, BentoML, Airflow, GraphQL, Apollo, MongoDB

WORK EXPERIENCE

LINE Corporation   **Taipei, Taiwan**
Machine Learning Engineer on Natural Language Processing   *Sep. 2020 - Present*

– Developed MLOps applications for NLPaaS with Airflow by pipeline automation of datas, models, and services.
– Integrated ML services with BentoML to improve +20% RPS by adaptive batching and resource managements.
– Created 3 Chinese NLP tools on summarization (GPT2), duplicateDetection (SBERT), and classification.

RESEARCH EXPERIENCE

Speech Processing and Machine Learning Lab, NTU   **Taipei, Taiwan**
Research Assistant, Supervised by Prof. Hung-yi Lee   *Jul. 2019 - Jan. 2020*

– Analyzed vector-quantized variational autoencoder (VQVAE) on self-attention architecture of transformer for discrete (phoneme) and continuous (prosody) speech disentanglement.
– Developed a voice conversion (VC) network by content encoder with instance normalization and speaker encoder with verification pretrained embedding.
– Verified zero-shot VC with speaker spoofing techniques testing on LibriTTS and VCTK corpus.

Speech Processing Lab, NTU   **Taipei, Taiwan**
Undergraduate Researcher, Supervised by Prof. Lin-shan Lee   *Feb. 2018 - Jun. 2019*

– Designed metric learning networks on BERT with 62.5% accuracy (+7%) for emotion classification.
– Developed a seq2seq based chatbot to produce emotional responses by disentangling emotion features in category (embedding level), external (word level) and internal memory (hidden state level).
– Implemented an end-to-end automatic speech recognition system from scratch with Kaldi.

Access IC Design Lab, NTU   **Taipei, Taiwan**
Undergraduate Researcher, Supervised by Prof. An-Yeu Wu   *Feb. 2018 - Jun. 2019*

– Proposed a framework for stress detection by XGBoost, which achieving 93% F1 score with state-of-the-art performance and reducing 95% feature computation cost.

PUBLICATIONS

Cheng-Ping Hsieh, Yi-Ta Chen, Win-Ken Ben, and An-Yeu Wu, "Feature Selection Framework for Xgboost Based on Electrodermal Activity in Stress Detection", in *2019 IEEE International Workshop on Signal Processing Systems*

PROJECTS

Text to Speech without Text   **Applied Deep Learning**

– Researched Mutlilabel Binary Vector (MBV) autoencoder and VQVAE to discover discrete acoustic units from speech in unsupervised learning without texts, phonemes and alignment.
– Analyzed acoustic units with latent interpolations to ensure the explainability of discrete representations.