Chan-Jan (Jeff) Hsu

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github | linkedin | leetcode | kaggle

EDUCATION

NATIONAL TAIWAN UNIVERSITY   *2016-2020*

B.S IN MATERIAL SCIENCE AND ENGINEERING

• GPA:3.88/4.30 (3.77 out of 4 in US system), 16th/53, 167+6 (Exempted) credits

NATIONAL TAIWAN UNIVERSITY   *2020-2022*

M.S IN DATA SCIENCE DEGREE PROGRAM, COLLEGE OF EECS ASSOCIATED WITH ACADEMIA SINICA

• GPA:4.27*/4.30 (4 out of 4 in US system), 1st/16, Graduate Representative for Data Science Degree Program

THESIS

ENHANCING SELF-SUPERVISED LEARNING BY MULTIMODAL INFORMATION

Supervised by Professor Hung-Yi Lee and Dr. Yu Tsao

EXPERIENCE

LINEAR ALGEBRA (EE1002) TEACHING ASSISTANT   *2020Fall / NTU*

MACHINE LEARNING (EE5184) TEACHING ASSISTANT   *2021Spring / NTU*

MACHINE LEARNING (EE5184) TEACHING ASSISTANT   *2022Spring / NTU*

MEDIATEK RESEARCH RESEARCH SCIENTIST   *2022-Present/ Taiwan*

• Research Lead of Generative Fusion Decoding, a joint-decoding framework for multimodal text recognition

• Extended Pretraining of Language Models to support Traditional Chinese in a Research Group of 5+

NEWS |GitHub |HuggingFace

• Curated TMMLU, a Chinese version of the MMLU benchmark from authentic Taiwan examinations | GitHub

• Analyzed FishLeg's Performance on Language Benchmarks such as the SMC Bench in a Research Group of 6+

• Technical Advisor of "ClairAudience: Enhancing ASR Systems with Internal Language Model Adaptation"

RESEARCH PUBLICATIONS

**LET'S FUSE STEP BY STEP: A GENERATIVE FUSION DECODING ALGORITHM WITH LLMS FOR MULTI-MODAL
TEXT RECOGNITION**   *Under Review*

Chan-Jan Hsu, Yi-Chang Chen, Feng-Ting Liao, Pei-Chen Ho, Yu-Hsiang Wang, Po-Chun Hsu, Da-shan Shiu

**T5LEPHONE: BRIDGING SPEECH AND TEXT SELF-SUPERVISED MODELS FOR SPOKEN LANGUAGE
UNDERSTANDING VIA PHONEME LEVEL T5**   *2023 ICASSP*

Chan-Jan Hsu, Ho-Lam Chung, Hung-Yi Lee, and Yu Tsao

ANALYZING THE ROBUSTNESS OF UNSUPERVISED SPEECH RECOGNITION   *2022 ICASSP*

Chan-Jan Hsu*, Guan-Ting Lin*, Da-Rong Liu, Hung-Yi Lee, and Yu Tsao

• First Co-author

**XDBERT: DISTILLING VISUAL INFORMATION TO BERT FROM CROSS-MODAL SYSTEMS TO IMPROVE
NATURAL LANGAUGE UNDERSTANDING**   *2022 ACL*

Chan-Jan Hsu, Hung-Yi Lee, and Yu Tsao

BRIDGING SPEECH AND TEXTUAL PRE-TRAINED MODELS WITH UNSUPERVISED ASR   *2023 ICASSP*

Jiatong Shi, Chan-Jan Hsu, Holam Chung, Dongji Gao, Paola Garcia, Shinji Watanabe, Ann Lee, Hung-yi Lee

ZERO-SHOT DOMAIN-SENSITIVE SPEECH RECOGNITION WITH PROMPT-CONDITIONING FINE-TUNING   *2023 ASRU*

Feng-Ting Liao, Yung-Chieh Chan, Yi-Chang Chen, Chan-Jan Hsu, Da-shan Shiu

PRUNING NEURAL NETWORKS USING FISHLEG ESTIMATION   *Under Review*

Rui Xia, Jamie McGowan, Jezabel R Garcia, Chan-Jan Hsu, Et al.

Entrepreneurship Publications

Breeze-7B Technical Report *Arxiv*

MediaTek Research

Extending the Pre-Training of BLOOM for Improved Support of Traditional Chinese Models, Methods and Results *Arxiv*

Philipp Ennen, Po-Chun Hsu, Chan-Jan Hsu, Chang-Le Liu, Yen-Chen Wu Et al.

Advancing the Evaluation of Traditional Chinese Language Models: Towards a Comprehensive Benchmark Suite *Arxiv*

Chan-Jan Hsu, Chang-Le Liu, Feng-Ting Liao, Po-Chun Hsu, Yi-Chang Chen, Da-shan Shiu

Scholarship

College Student Research Scholarship, National Science Committee *2019*

Research Topic: Computational analysis on new ideas conveyed in language using reddit corpus

Supervised by Prof. Shu-Kai, Hsieh

Subsidies for Attending International Conferences *2022*

Granted subsidies to attend the 60th Annual Meeting of the Association for Computational Linguistics

Service to Research

Served as a reviewer for AACL 2022 *2022 AACL*

Academic Highlights

Coding	**Data Structure and Programming:** A+ | **Algorithms:** A+ | **Discrete Mathematics:** A
ML/DL/AI	**Machine Learning:** A+ | **Deep Learning for Human Language Processing:** A+
	Applied Deep Learning: A+ | **Deep Learning for Computer Vision:** A+
NLP Methods	**Web Retrieval and Mining:** A+ | **Corpus Linguistics:** A+ | **Introduction to Linguistics (1)(2):** A+
Other	**Computation in Data Science:** A+ | **Advanced Computer Architectures:** A+
	Computer Gaming Theory: A+ | **High-Performance Big Data and Artificial Intelligence Systems:** A

Achivements

Leetcode (Competitive Coding): Highest Rating 2324 (top 0.53%)

Kaggle (Machine Learning Contest): Highest Rank 973 (top 1%)

PetFinder.my - Pawpularity Contest : 24th/3537 (top1%)

• Image Regression

Lux AI : 50th/1178 (top5%)

• Multi-variable Optimization Agent Design

Stable Diffusion - Image to Prompts (top 5%)

• Reverse the Typical Direction of a Generative Text-to-Image Model

Extra Curricular Activities

Taipei Universiade Foreign Language Volunteer *2017*

Provide assistance to foreign visitors in multiple venues

Service Learning-International Companions for Learning *2017*

Partnered with a foreign exchange student to introduce foreign culture to students in rural Taiwanese communities

Member of the NTU Maker CLUB

Member of the Material Science Table Tennis Team

Member of the NTU Public Address Team

Provided free service for clubs with limited funding as a sound engineer

Coordinated with performers, production teams, and venue management to plan and execute audio setups

for student live performances.