Chin-Lun (Allen) Fu

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EDUCATION

University of California, Los Angeles (UCLA) — *Los Angeles, CA*
M.S. in Computer Science — *Sept. 2023 - Jun. 2025*

National Taiwan University (NTU) — *Taipei, Taiwan*
B.S. in Electrical Engineering — *Sept. 2017 - Jun. 2022*

- Coursework: Deep Learning for Computer Vision, Applied Deep Learning, Numerical Linear Algebra, Machine Learning, Operating Systems, Computer Architecture, Algorithms, Data Structure and Programming, Probability and Statics, Computer Programming

WORK EXPERIENCE

Microsoft — *Taipei, Taiwan*
Research Intern, Visual Document Intelligence Team — *Apr. 2022 - Nov. 2022*

- Improved over 5% accuracy rate in cross-lingual transfer learning, especially in low-resource scenario with adding knowledge in Wikipedia.
- Improved over 10% F1-score (macro) in receipt field extraction by further in-domain post-pretraining LayoutXLM.

High Tech Computer Corporation (HTC) — *Taipei, Taiwan*
Research Intern, Algorithms and Machine Learning Team — *Jul. 2020 - Nov. 2020*

- Obtained 55% in F1-score for clarifying questions in the ClairQ competition.
- Improved 7% accuracy rate with 27% less time by applying Orthogonal Initiate in Deep Linear Network.

RESEARCH EXPERIENCE

NTU, Speech Processing and Machine Learning Lab — *Taipei, Taiwan*
Research Assistant | Advisor: Prof. Hung-yi Lee — *Oct. 2020 - Aug. 2022*

- Researched on Parameter-efficient Learning in NLP and Speech (e.g., Adapter and Prompt).
- Used 99.95% less training parameters with at most 0.5% accuracy drop on the GLUE benchmark.

Johns Hopkins University (JHU), JSALT 2022 [website] — *Baltimore, Maryland (remote)*
Team member | Advisor: Prof. Hung-yi Lee, Shang-wen (Daniel) Li — *Jun. 2022 - Aug. 2022*

- Applied various parameter-efficient tuning methods in NLP to Speech.
- Achieved over 90% trainable parameters reduction and comparable performance on the SUPERB benchmark.

NTU, Vision and Learning Lab — *Taipei, Taiwan*
Research Assistant | Advisor: Prof. Yu-Chiang (Frank) Wang — *Jan. 2021 - Dec. 2021*

- Researched on domain generalization problems of Face Anti-Spoofing and proposed a state-of-the-art (SOTA) model.
- Improved the Area under the ROC Curve (AUC) from 82.11% to 85.49% under the novel spoof attack detection.

PUBLICATIONS

* indicates equal contribution

[1] **Chin-Lun Fu***, Zih-Ching Chen*, Yun-Ru Lee, and Hung-yi Lee. "AdapterBias: Parameter-efficient Token-dependent Representation Shift for Adapters in NLP Tasks," Findings of the Association for Computational Linguistics: **NAACL 2022**. [paper] [arxiv] [code]

[2] **Chin-Lun Fu***, Zih-Ching Chen*, Chih-Ying Liu, Shang-Wen Li, and Hung-yi Lee. "Exploring Efficient-tuning Methods in Self-supervised Speech Models," The 2022 IEEE Spoken Language Technology Workshop: **SLT 2022**. [paper] [arxiv]

[3] **Chin-Lun Fu***, Zih-Ching Chen*, Lin-Hsi Tsao*, Shang-Fu Chen, and Yu-Chiang (Frank) Wang. "Learning Facial Liveness Representation for Domain Generalized Face Anti-Spoofing," IEEE International Conference on Multimedia and Expo: **ICME 2022**. [paper] [arxiv]

SKILLS

Programming Python, C/C++, HTML/CSS, MATLAB
Libraries & Toolkits PyTorch, TensorFlow, Keras, Git, Linux, LaTeX, OpenCV, Scikit-learn, Cuda