

# Po-Nien, Kung

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## Skills

- Research ability in deep learning and natural language processing. Capable to publish papers from scratch. Experience in doing projects on multiple NLP tasks, such as Sentiment-Analysis, Question Answering, Dialogue State Tracking, Text Summarization, etc.
- Comprehensive coding ability on multiple coding languages such as C, Python, Javascript, with web and android app development experiences.
- Familiar with UNIX systems and DNS server, web server, MySQL DB, and ESXI server. Capable to set up and maintain these services.

## Education

**National Taiwan University (NTU)**

*Department of Computer Science and Information Technology, BS*

**Taipei, Taiwan**

*Graduation: June 2021*

## Publications

**Efficient Multi-Task Auxiliary Learning: Selecting Auxiliary Data by Feature Similarity.** *July 2020 – September 2021*

— *Po-Nien Kung, Yi-Cheng Chen, Sheng-Siang Yin, Tse-Hsuan Yang, Yun-Nung Chen*

— **EMNLP 2021 Accepted**

- This paper proposes a time-efficient sampling method to speed up auxiliary MTL learning. The method is simple but works.
- We propose an automatic auxiliary data sampling method that focuses on deciding the specific data samples instead of the mixing ratio.
- The experiments demonstrate that the proposed approach outperforms the single-task and random-sampling MT-DNN. Furthermore, the model using less data also surpasses the fully-trained MT-DNN.

**Zero-Shot Rationalization by Multi-Task Transfer Learning from Question Answering.** *January 2020 – October 2020*

— *Po-Nien Kung, Tse-Hsuan Yang, Yi-Cheng Chen, Sheng-Siang Yin, Yun-Nung Chen*

— **EMNLP 2020 Findings**

- This paper is the first attempt that leverages multi-task learning for zero-shot rationalizations.
- This paper transfers the capability of question answering to extract the rationales in a zero-shot manner and provides the potential of answering diverse questions even without any annotated information.
- The experiments demonstrate that the proposed approach achieves comparable scores with the prior work for two benchmark rationalization datasets without annotated rationales, meantime possesses better generality.
- Led the team to win the **Honorable Mentioned Prize** in NTU CSIE Special Topic Exhibition out of 20 teams.
- Achieved **Principal Award** in National Taiwan University Undergraduate Thesis Award.

**Multi-Task Learning for Situated Multi-Domain End-to-End Dialogue Systems** *September 2020 – December 2020*

— *Po-Nien Kung, Chung-Cheng Chang, Tse-Hsuan Yang, Hsin-Kai Hsu, Yu-Jia Liou, Yun-Nung Chen*

— **AAAI 2021 DSTC9 Workshop**

- Proposed a simple model structure to process complex multi-modal DST(Dialogue State Tracking) Task and outperforms the baseline models with a great margin.
- Experimented on various forms of input representations and training strategies in the generation-based End-to-End DST system. The ablation experiments show the effectiveness of most features.
- We presented our work at **DSTC9 Workshop at AAAI21 Conference**.

## Experiences

**National Taiwan University**

*Research Assistant*

**Taipei, Taiwan**

*July 2021 – December 2021*

- Focusing on real-world NLP problems under the advice of Prof. Yun-Nung Chen.

**Microsoft**  
*Research Intern*

**Taipei, Taiwan**  
*March 2021 – July 2021*

- Done a research project with a senior researcher in Taipei VDI Team. The experiments showed promising insights for specific deep learning techniques. The final presentation also received positive and rewarding feedback from Beijing and Redmond.

**DSTC9-SIMMC Contest**  
*Team Leader*

**Taipei, Taiwan**  
*June 2020 – September 2020*

- Led a five-person team in MiuLab to attend DSTC9 Track 4, a multimodal dialogue state tracking task published by Facebook. By applying multi-task and multi-domain training, we trained an end-to-end DST model and won the **runner-up(second place)** on the response generation subtask.

**Gridwell**  
*Part-Time Software Developer*

**Taipei, Taiwan**  
*July 2018 – January 2020*

- Developed three integrated web applications for real-time data management using LAMP as back-end structure and various front-end APIs such as bootstrap, google map, ChartJs, etc, accompanied with MySQL database management.
- One and a half year remote part-time job with an hourly wage NT 400.

**NTU CSIE NASA Team**  
*DNS Team Leader*

**Taipei, Taiwan**  
*July 2018 – January 2021*

- Maintained DNS and ESXI servers in the NTU CSIE department, with the entire network system transfer twice during department building construction and power outage.

**Web Developer**  
*Freelancer*

**Taipei, Taiwan**  
*October 2019 – July 2020*

- [Poseidon Network website](#) development case.(October 2019, NT 8000)
- Binance 2020 [Blockchain Week In Vietnam](#) website development case.(January 2020, NT 24000)
- Binance 2020 [Blockchain Virtual Conference](#) website development case.(June 2020, NT 17000)
- Taipei National University of the Arts [freshman admission website](#).(July 2020, NT 25000)