

# Yu-An Wang / 王佑安

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## Education

### National Taiwan University

Taipei, Taiwan

M.S IN COMPUTER SCIENCE & INFORMATION ENGINEERING (CSIE)

2019.9 - 2021.6

- GPA:4.25/4.30 (top 4%)
- Thesis Topic: Investigating Positional Encoding in Pre-Trained Language Models

### National Taiwan University

Taipei, Taiwan

B.S IN COMPUTER SCIENCE & INFORMATION ENGINEERING (CSIE)

2015.9 - 2019.6

- GPA:3.74/4.30 (top 42%)

## Experience

### Software Engineer

Taipei, Taiwan

CHROME OS, GOOGLE TAIWAN

2021.7 - Present

### Graduate Student Researcher

Taipei, Taiwan

MACHINE INTELLIGENCE & UNDERSTANDING LAB, NATIONAL TAIWAN UNIVERSITY

2019.9 - 2021.6

- Advisor: Yun-Nung (Vivian) Chen
- Research topic: Positional Encoding in Language Models
  - Analyzed the effectiveness of pre-trained position embedding on NLP tasks.
  - Published in EMNLP 2020[1].
- Research topic: Dialogue Policy Learning
  - Continued the research topic from undergraduate.
  - Published in ASRU 2019[2].

### Teaching Assistant

Taipei, Taiwan

NATIONAL TAIWAN UNIVERSITY

2019.2 - 2021.6

- [CSIE5431] Applied Deep Learning (2019 Spring, 2020 Spring, 2021 Spring)

### Research & Software Engineer Intern

Taipei, Taiwan

NEWS RETRIEVAL TEAM, TAIWAN AILABS

2019.7 - 2019.10

- Project: **Islander.cc** (島民衛星). (<https://islander.cc>)
- Designed the news retrieval algorithms, including news grouping, user comment analysis, and etc.
- Developed the early-stage website front-end, and back-end services including RESTful API, Relational Database Management, and etc.
- Experienced with CI/CD deployment and Agile software development.

### Undergraduate Research Assistant

Taipei, Taiwan

MACHINE INTELLIGENCE & UNDERSTANDING LAB, NATIONAL TAIWAN UNIVERSITY

2018.2 - 2019.6

- Advisor: Yun-Nung (Vivian) Chen
- Research topic: Dialogue Policy Learning
  - Analyzed different reinforcement learning algorithms on dialogue policy.
  - Engaged in SLT 2018 Special Session - Microsoft Dialogue Challenge and won first place on leader board.
- Research topic: Music Generation
  - Researched on generating symbolic-domain music with variational autoencoder(VAE).
  - Published in ICASSP 2019[3].

## Research Intern

Taipei, Taiwan

DMS SPEECH TEAM, DELTA ELECTRONIC TAIWAN

2018.6 - 2018.8

- Project: End-to-End Trigger Word Detection
- Developed an end-to-end CNN+RNN model to detect trigger word speech system achieving over 99% precision and recall.

## Undergraduate Research Assistant

Taipei, Taiwan

SPEECH PROCESSING LAB, NATIONAL TAIWAN UNIVERSITY

2017.9 - 2018.6

- Advisor: Lin-shan Lee
- Researched on deep reinforcement learning.

## Publications

- [1] Yu-Kai Huang, Yueh-Cheng Liu, Tsung-Han Wu, Hung-Ting Su, Yu-Cheng Chang, Tsung-Lin Tsou, **Yu-An Wang**, Winston Hsu, "S3: Learnable Sparse Signal Superdensity for Guided Depth Estimation," Accepted by *2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2021)*
- [2] **Yu-An Wang**, Yun-Nung Chen. "What Do Position Embeddings Learn? An Empirical Study of Pre-Trained Language Model Positional Encoding," In *The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)*
- [3] **Yu-An Wang**, Yun-Nung Chen. "Dialogue Environments are Different from Games: Investigating Variants of Deep Q-Networks for Dialogue Policy," In *2019 IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU 2019)*
- [4] **Yu-An Wang**, Yu-Kai Huang, Tzu-Chuan Lin, Shang-Yu Su, Yun-Nung Chen. "Modeling Melodic Feature Dependency with Modularized Variational Auto-Encoder," In *The 44th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2019)*

## Honors & Awards

### NTU Bachelor Thesis Award

Taipei, Taiwan

NATIONAL TAIWAN UNIVERSITY

2019.6

- Dean's award of CSIE department.
- Thesis title: *Investigating Variants of Deep Q-Networks for Dialogue Policy*

### ACLCLP Scholarship

Taipei, Taiwan

THE ASSOCIATION FOR COMPUTATIONAL LINGUISTICS AND CHINESE LANGUAGE PROCESSING

2019.5

- Travel grant for ICASSP 2019.

### SLT 2018 Special Session - Microsoft Dialogue Challenge

Athens, Greece

IEEE SLT 2018

2018.12

- Won first place on leader board.
- Oral presentation in SLT 2018.

## Skills

Machine Learning, Deep Learning, UNIX-like Operating System, Software Engineering, Database Management

Programming Languages: C, PYTHON, JAVA