

Liang-Yuan(Leo) Wu

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Education

The University of Edinburgh(UoE)

Edinburgh, United Kingdom

VISITING STUDENT(NON-DEGREE) IN SCHOOL OF INFORMATICS, COLLEGE OF SCIENCE & ENGINEERING

Sept. 2021 - Dec. 2021

- Sponsored by Y.L. Lin Scholarship with 15,000 USD.
- Researched in the Centre for Speech Technology Research, advised by Prof. Hao Tang.

National Taiwan University(NTU)

Taipei, Taiwan

B.S. IN ELECTRICAL ENGINEERING, COLLEGE OF ELECTRICAL ENGINEERING & COMPUTER SCIENCE

Sept. 2017 - Aug. 2021

- GPA
 - Overall GPA: **4.0**/4.3
 - last 60 GPA: **4.22**/4.3
- Selected Courses
 - CS: Algorithms, Data Structure and Programming, Operating Systems, Introduction to Computer Networks, Web Programming, Linear Algebra, Discrete Mathematics, Probability and Statistics
 - ML: Machine Learning, Applied Deep Learning, Data Science, Natural Language Processing, Introduction to Digital Speech Processing

Research Experience

Speech Processing and Machine Learning Laboratory

Taipei, Taiwan

UNDERGRADUATE RESEARCHER, ADVISED BY PROF. LIN-SHAN LEE, AND PROF. HUNG-YI LEE

Sept. 2019 - Aug. 2021

- **Code-Switching Text Data Augmentation**
 - Researched on pre-trained multilingual transformer models, and its application on code-switching text generation.
 - Gave a poster representation with the topic "Code-switching Text Data Augmentation" in MLSS 2021, Taipei.
- **Automatic Speech Recognition system of Mandarin Chinese**
 - Researched on applying end-to-end ASR system in Mandarin Chinese.
 - Modified an English ASR system to Chinese ASR, and achieved reasonable WER.

Work Experience

Ucarer Inc.

Taipei, Taiwan

INTERN AI PLATFORM ENGINEER

March, 2021 — Aug. 2021

- Developed a backend operation system for the e-commerce platform, helping Sarcopenia patients to recover.
- Built a customer relationship management system to help evaluating and ranking the need of customers.
- Used PHP and MySQL for the operation system, flask and PyTorch for the customer relationship management system.

Dragoncloud.ai

California, United State

INTERN MACHINE LEARNING ENGINEER (REMOTE)

May, 2020 — June 2021

- Developed an AI classroom system that analyzed the proportion and the contents of English that was used during a class.
- Developed an accent scoring model that scores the quality of non-native English speakers' speakings.
- Used PyTorch and AWS transcribe to train and inference the models.

Industrial Cooperation Office Electrical Engineering Department

Taipei, Taiwan

ADMINISTRATIVE ASSISTANT

Sept., 2019 — August, 2020

- Designed and maintained the website of the office, for showing intern/work opportunities to 800+ NTUEE students.
- Held recruitment orientations to help matching students and enterprises.
- Used Javascript to build functions of the website.

Honors & Awards

2021	Finalist , Y.L. Lin Scholarship	Y.L. Foundation
2021	Honorable Mention , AI CUP Medical Dialogue Analysis Competition	Aldea, Taiwan
2020	Finalist , Outgoing Exchange Student Scholarship	OIA, NTU
2020	Finalist , Social Devotion Special Award	NTU
2020	Finalist , Altruistic Award	NTU
2020	2nd Prize , Undergraduate Innovation Award	EE Dept., NTU
2018	Enterprise Award: E.SUN Bank , 2018 MakeNTU	EESA, NTU

Teach Experience

Machine Learning(Spring 2021)

TEACHING ASSISTANT

Taipei, Taiwan
Feb., 2021 — June 2021

- In charge of the explainable AI project, gave an 1 hour lecture to help students get familiar with the topic.

Cornerstone EECS Design and Implementation(Spring 2020)

TEACHING ASSISTANT

Taipei, Taiwan
Feb., 2020 — June, 2020

- Compiled teaching materials that helped EE freshman students to build a path following automatic robot.

Selected Project

Dialogue State Tracking & Natural Language Generation

RANK 1/21 TEAMS IN THE COURSE APPLIED DEEP LEARNING  

June 2021 - July 2021

- There are two tasks in this project. The DST task is to predict the dialogue state based on the previous context, and the NLG task is to generate engaging chat to enhance users' experience.
- We achieve top 5 in the leaderboard of DST, and **rank 1** in NLG task by human evaluation.

NTU Course Selection System 2.0

AN IMPROVED VERSION OF THE SCHOOL'S COURSE SELECTION SYSTEM  

Dec. 2020 - Jan. 2021

- Improved the origin version of course selection system by adding useful functions, including advanced searching, timetable managing and commenting.
- Used React as the frontend framework, RESTful API and MongoDB as our backend.

Automatic Forehead Thermometer

DEPLOYED ACROSS THE CAMPUS TO HELP REDUCE THE THREAT OF THE PANDEMIC 

Mar. 2020 - Apr. 2020

- The system can automatically identify personnel and record the forehead temperature, which help the access control of all buildings in NTU.
- Won the Social Devotion Special Award by the chancellor of NTU, Dr. Chung-Ming Kuan.

Light Dance

PERFORMED AT THE OPENING NIGHT OF 2020 NTU ART FESTIVAL  

Jan. 2020 - Oct. 2020

- An embedded system with raspberry pi, EL wires and LED strips, allow dancers' suits to change with the music.
- Invited to perform at the Night of NTUEE, the VLSI/CAD Symposium and the NTU Art Festival.

Leadership

2020 MakeNTU Makeathon

GENERAL COORDINATOR

Taipei, Taiwan
July. 2019 - Oct. 2020

- Led a team of over 80 members to hold a 2 day nationwide Makeathon with 150 participants.
- Collaborated with Ministry of Education, and 10+ international companies including ARROW and GOOGLE, and have 50,000 USD in sponsorship.

Academic Department of NTUEE Student Association

DIRECTOR

Taipei, Taiwan
June 2019 - June 2020

- Led a team of over 40 students to provide academic services to the 800+ undergraduates in NTUEE, including university fairs and research competitions
- Maintained an openlab, **Makerspace**, assisting students with side projects by providing 3D printing, laser cutting and tutorials of 10+ kinds of evaluation boards.

Basketball Team, Department of EE

CAPTAIN

Taipei, Taiwan
June 2019 - June 2020

- Led and coached a basketball team of more than 30 student players three times a week.
- Won 2nd place and 4th place in NTU College Freshman Basketball Cup for two consecutive years.

Skills

Programming	Python, C/C++, Javascript, Node.js, PHP
Deep Learning	PyTorch, Transformers, Keras
Web Development	React, HTML5, CSS, MongoDB, GraphQL, Laravel, MySQL, Flask
Languages	English(fluent), Mandarin(native)