TZU-CHUAN LIN

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Received the degree of Bachelor of Science in the Department of Computer Science and Information Engineering (CSIE) at National Taiwan University (NTU). My vision is to leverage my strong technical skills to change the world and make it better. I hope to be an impactful person one day.

Experience

BravoAI (provides Artificial Intelligence solutions for insurance companies)　　　**Taipei City**
Data Scientist　　　*August 2019–current*

Achieved 90% accuracy on Taiwanese license plate detection and recognition project for MSIG Mingtai Insurance, containerized numerous Artificial Intelligence software by Docker and boosted the scene text detector for receipts to 92% accuracy.

National Taiwan University Digital Learning Center　　　**Taipei City**
System Administrator (part-time)　　　*August 2018–July 2019*

1) Managed 8 HPE ProLiant DL servers, 7 Synology NAS servers, 3 HPE switches and 50+ IP addresses, including the FortiGate firewalls, Libvirt-based virtual machines, NTU Course Online website (NTU COOL, 9000+ users), LibreNMS the monitoring service, MaaS the server provisioning service, and Dockerized containers. 2) Wrote automation scripts for NTU COOL by Ansible. 3) Assigned tasks to 8 new interns and supervised their progress. 4) Initiated the documentation of systems for ease of management and collaborated with 10+ developers and system administrators.

Institute of Information Science, Academia Sinica　　　**Taipei City**
Intern of Natural Language Processing Lab　　　*July 2017–August 2017*

1) Worked with 4 Computer Science students to solve elementary school math problems by Deep Learning. 2) Self-studied the "CS224n Natural Language Processing with Deep Learning" (2017 Winter) course.

Department of Information Management, National Taiwan University　　　**Taipei City**
Teaching Assistant of the Calculus course　　　*September 2016–July 2018*

Worked as a teaching assistant of the Calculus course of 50+ freshmen.

Elite Camp of College of Management　　　**Taipei and Beijing City**
Minister of Activities Department　　　*July 2016*

Led a 20+ NTU College of Management students to design and coordinate all the activities in this camp, including the ice-breaking games, cultural events, and banquets for Peking University Guanghua School of Management undergraduate students.

Education

Academic Qualifications

National Taiwan University　　　**Taipei**
Computer Science and Information Engineering, GPA 4.18/4.3　　　*2015 - 2019*

Notable Projects

○ **Chinese Dark Chess Project:** *Theory of Computer Games Final Project*

I implemented several classic board game searching algorithms(e.g. alpha-beta, NegaScout, transposition table) in my Chinese Dark Chess AI agent by C++. Please see `https://github.com/jimlinntu/Theory-of-Computer-Games/tree/master/final` for more information.

- **Taiwan High-Speed Booking System Project:** *Object-Oriented Analysis and Design Final Project*

  In this course, we designed Java desktop application by the modern software engineering approach, including UML (Uniform Modeling Language) and MVC design pattern. For more information, please see `https://github.com/jimlinntu/Object-oriented-Analysis-and-Design`.

- **Machine Learning Course Final Project** - **Championship:** *'Question Answering with Machine Learning'*

  This final project required team-working skills and technical ability to create a robust machine learning model to deal with Chinese question answering task. In this project, I worked as a machine learning model trainer, trying and building different neural network architectures. For more information about our project please check `https://github.com/maoredman/ML2017FALL/blob/master/final/Report.pdf` for our project report.

Publications

Modeling Melodic Feature Dependency with Modularized Variational Auto-Encoder
Co-first author; Accepted by ICASSP 2019

In this paper, we proposed a novel architecture based on Variational Autoencoder and Recurrent Neural Network to model music sequences and conducted thorough qualitative and quantitative experiments to demonstrate our proposed model's ability to outperform other baseline models.

Reactive Multi-Stage Feature Fusion for Multimodal Dialogue Modeling
Second author; Accepted by AAAI 2019 Workshop

In this paper, we proposed a multi-stage fusion model to integrate visual and text information effectively. This model outperformed the released baseline by 12% in CIDEr, 7% in Bleu score and 12% in human evaluation.

Technical and Personal skills

- **Programming Languages:** Proficient in C, C++, Java, and Python.

- **Software Skills:** Machine Learning and Deep Learning, Linux system programming, system administration, automation by Ansible and container management by Docker.

- **General Skills:** Good at presentation and working with a team.

Interests and extra-curricular activity

- **Volunteering:** 1) Went on 2 mission trips to conduct summer camps for K-12 students. 2) Has participated and held camps 8 times for K-12 students for several remote elementary schools in Taiwan.
- **Leadership:** I am currently the president of Grace Baptist Church's student fellowship, responsible for caring about my members' life, guiding my members to share their stories.
- **Music:** I love playing the piano and singing. I used to participate in the choir at National Taiwan University and performed on National Concert Hall once. Moreover, I once performed Acappella at National Taiwan University Student Activity Center. I am also a piano accompanist in my fellowship now.