

WEI-CHENG TSENG

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EDUCATION

National Tsing Hua University (NTHU)

Research Assistant of Electrical Engineering

Sept. 2019 - current
advised by **Prof. Min Sun**

National Tsing Hua University (NTHU)

BS of Electrical Engineering

Sept. 2015 - June 2019
Overall GPA: 4.17/4.30, **Rank: Top 3% (3rd/109)**

University of California, Berkeley

Summer Session

July. 2017 - Aug 2017

PUBLICATIONS

Wei-Cheng Tseng, Da-Cheng Juan, Wei Wei, Min Sun, "Meta-CPR: Generalize to Unseen Large Number of Agent with Communication Pattern Recognition Module", *under review*

Wei-Cheng Tseng, Jin-Siang Lin, Yao-Min Feng, Min Sun, "Toward Robust Long Range Policy Transfer", *AAAI 2021*

Wei-Cheng Tseng, Jin-Siang Lin, Yao-Min Feng, Min Sun, "HAT: Hierarchical Alternative Training for Long Range Policy Transfer", *ICML 2020 workshop*

Wei-Cheng Tseng, Cheng-Kuan Chen, Tayden Li, Min Sun, Hsiao-Chun Huang, "Disentangling Experimental Noise from Fluorescent Microscopy Images with Multiple Cell Type", *NeurIPS 2019 workshop*

Wei-Cheng Tseng, Po-Han Chi, Jia-Hua Wu, Min Sun, "Leveraging Sequence Embedding and Convolutional Neural Network for Protein Function Prediction", *NeurIPS 2018 workshop*

RESEARCH EXPERIENCE

Disentangle Experimental Noise from Cell Profiling Image

June 2019 - Sep 2019

Undergraduate Research, advised by Prof. Min Sun and Prof. Hsiao-Chun Huang

- Developed learning the representation of cell profiling image that is immune to experimental noise using metric learning
- Ranked 8% in NeurIPS 2019 competition
- This work is accepted by NeurIPS 2019 workshop

Drug Discovery with Deep Learning

Mar 2019 - June 2019

Undergraduate Research, advised by Prof. Min Sun

- Designed drug molecules based on the existing drugs with reinforcement learning and sequence generation.

Master Soccer with Multi-Agent Reinforcement Learning

Mar 2019 - June 2019

Undergraduate Research

[report]

- Implemented baseline reinforcement learning algorithm, such as PPO, A2C, with PyTorch.
- Implemented multi-agent reinforcement learning algorithm, such as MADDPG, MAAC, with PyTorch.
- Analysed the result of conventional RL algorithm and multi-agent RL algorithm on unity ML-agnet environment.

Navigation with Reinforcement Learning and Neural Scene Representation Nov 2018 - Jan 2019

Undergraduate Research

[report]

- Used Generative Query Network (GQN) to learn a representation of the layout of the environment.
- Combined the representation of GQN and reinforcement learning to make an agent to navigate to a specific position.

Protein Function Prediction with Deep Learning

Sep 2017 - Nov 2018

Undergraduate Research, advised by Prof. Min Sun

- Leveraged multi-level sequence embedding techniques on amino acid sequences to learning meaningful representation and predict amino acid sequence functionalities.
- This work is published as NeurIPS 2018 workshop paper.

SELECTED TEAM PROJECT

Mastering Minesweeper with AI

Sep 2018 - Jan 2019

Final Project of Artificial Intelligence class

- Encoded the state of game into Boolean expressions.
- Used model checking to select next action.

Smart Farming System

Sep 2017 - Jan 2018

Final Project of Introduction to Internet of Things class

- Built a sensor network to record the information of the farm with Mediatek LinkIt one
- Created a website to monitor the growth of bean sprouts

WORK EXPERIENCE

MediaTek

July 2018 - Oct 2018

Summer Intern

Hsinchu, Taiwan

- Integrated a varieties of sensors to collect dataset for radar related application.
- Developed a demonstration system to verification AI processor
- Developed a signal processing system to estimate the object distance

HONORS AND AWARDS

Dr. Mei Yi-Chi Memorial Prize

June 2019

Highest honor for newly graduated students at NTHU.

NTHU

Academic Achievement Award

Mar 2016, Sep 2016, Sep 2017, Mar 2018, Sep 2018, Mar 2019

Awarded to the top 5 students in the previous semester.

NTHU

Pan Wen Yuan Foundation Scholarship

Dec 2018

Only one student in electrical engineering department.

Pan Wen Yuan Foundation

The Zhu Shun Yi He Qin Scholarship

Mar 2017

Only two student in electrical engineering department.

Summer Oversea Experience Scholarship

Mar 2016

Only ten student in electrical engineering department.

NTHUEE

TECHNICAL STRENGTHS

Computer Languages

C/C++, python, JavaScript/TypeScript, HTML, CSS, MATLAB

Hardware Development

FPGA, Ardunio, Verilog

EXTRA-CIRRICULAR

Counselor of Freshmen

Sep 2017 - Jan 2018

- Helped students from other places to settle down

Activities Director of NTHU Guitar Club

Sep 2016 - Jun 2017

- Organized all the activities of guitar club