Ting-Wei **Lu**

MACHINE LEARNING · NATURAL LANGUAGE PROCESSING · SOFTWARE ENGINEERING

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Education

National Taiwan University *Taipei, Taiwan*
B.S. in Engineering Science and Ocean Engineering *Graduation Expected in Aug.2020*
- GPA: 3.86

Work Experience

Cathay Financial Holdings *Taipei, Taiwan*
Data Scientist Intern *Jul. 2019 - Present*
- Developing a cross-datatype unsupervised representation learning toolkit for tabular data.

National Taiwan University *Taipei, Taiwan*
Research Assistant *Mar. 2020 - Present*
- Advisor: Prof. Liu, Helen K
- Analyzing online policy and politics content under the "109 NTU Core Consortiums Project"

Teaching Assistant *Sep. 2019 - Jan. 2020*
- [EE5184] Machine Learning (2019 Fall)

Publications

[1] Kai-Ling Lo, **Ting-Wei Lu**, Tzu-Teng Weng, I-Hsuan Chen, Yun-Nung Chen, "LION-Net: LIghtweight ONtology-independent Networks for Schema-Guided Dialogue State Generation". " in The 8th Dialog System Technology Challenge (DSTC8) in Proceedings of Thirty-Forth AAAI Conference on Artificial Intelligence (AAAI 2020), New York, USA, 2020.

Research

Machine Intelligence and Understanding Laboratory (Miulab) *National Taiwan University*
Advisor: Prof. Yun-Nung (Vivian) Chen *Mar. 2019 - Present*
- Dialogue State Tracking · Chinese Character Embedding

Natural Language Processing Laboratory (NLPL) *National Taiwan University*
Advisor: Prof. Hsin-Hsi Chen *Mar. 2019 - Jun. 2019*
- Knowledge Base Question Answering

Competitions

International

2019	The 8th Dialog System Technology Challenge - Schema-Guided Dialogue State Tracking. **Ranked 20th / 26**	*DSTC8*
2017	Human Protein Atlas Image Classification. **Ranked 810th / 2169**	*Kaggle*

Domestic

2018	KKStream Deep Learning Workshop. **Ranked 21th / 91**	*KKStream*
2017	NTU System - App Creativity Contest. **Honorable Mention**	*NTU*

Projects

LION-Net: LIghtweight ONtology-independent Networks for Schema-Guided Dialogue State Generation *DSTC8*
https://github.com/MiuLab/LION-Net
- Develop innovative approaches to multi-domain dialogue state tracking on the Schema-Guided Dialogue dataset.
- Built a seq2seq dialogue state generator with copy mechanism in which the natural language descriptions of slots are used as the input.

BERTable: Universal Representation Learning for Tabular Data *Cathay Holdings*

https://github.com/dwaydwaydway/BERTable

- [In Progress] Developing a cross-datatype representation learning toolkit for tabular data using transformer-based model.
- Distributed representations of both categorical and numerical data were learned by recovering missing values.

Human Protein Atlas Image Classification *Kaggle*

https://github.com/dwaydwaydway/Human-Protein-Atlas-Image-Classification

- Classify subcellular protein patterns in human cells with limited training data for some classes.
- Utilizing Focal Loss and customized F1 loss to fix imbalanced label problem.

Chinese Sub-Character Embedding *Miulab*

https://github.com/dwaydwaydway/Cangjie2Vec

- Enriching Chinese word embedding with sub-character feature such as Cangjie or Component.

KKStream Deep Learning Workshop *KKStream*

https://github.com/dwaydwaydway/KKStream-Deep-Learning-Workshop

- Forecasting the usage behavior of KKstream users provided the data in various form (time series, categorical and numerical)

Skills

Programming Python · C++ · Java · SQL · Matlab

Libraries & Toolkits PyTorch · Git · Linux

Extracurricular Activities

Varsity Baseball Team *National Taiwan University*

- Member of the varsity baseball team in senior high and college.

Tutoring *Taipei, Taiwan*

- Programming · Automatic Control · Math (high school level)