

Ting-Wei Lu

MACHINE LEARNING · NATURAL LANGUAGE PROCESSING · SOFTWARE ENGINEERING

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Education

National Taiwan University

B.S. in Engineering Science and Ocean Engineering

- GPA: 3.86

Taipei, Taiwan

Graduation Expected in Aug. 2020

Work Experience

Cathay Financial Holdings

Data Scientist Intern

- Developing a cross-datatype unsupervised representation learning toolkit for tabular data.

Taipei, Taiwan

Jul. 2019 - Present

National Taiwan University

Research Assistant

- Advisor: Prof. Liu, Helen K
- Analyzing online policy and politics content under the "109 NTU Core Consortiums Project"

Taipei, Taiwan

Mar. 2020 - Present

Teaching Assistant

- [EE5184] Machine Learning (2019 Fall)

Sep. 2019 - Jan. 2020

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)

Advisor: Prof. Yun-Nung (Vivian) Chen

- Dialogue State Tracking · Chinese Character Embedding

National Taiwan University

Mar. 2019 - Present

Natural Language Processing Laboratory (NLPL)

Advisor: Prof. Hsin-Hsi Chen

- Knowledge Base Question Answering

National Taiwan University

Mar. 2019 - Jun. 2019

Competitions

International

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

DSTC8

Kaggle

Domestic

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

KKStream

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)