Zetian (Neal) Wu

+1-(443)-630-2430 | zwu49@jhu.edu | neal-ztwu.github.io

Education

Johns Hopkins University — Maryland, United States
MSE in Data Science — *Jan. 2020 – present*

Zhejiang University — Zhejiang, China
BS in Physics | Minor in Finance — *Sept. 2015 – Jun. 2019*

Research Experience

Research Assistant — Apr. 2020 – present
Center for Language and Speech Processing — *Johns Hopkins University, United States*

What is the Fact of Shap Value for NLP Models?
In progress

Multimodal-Collaborative Pretraining
In progress

Style-Specific Melody Generation in an Unsupervised Way
In progress

MultiBench: Multiscale Benchmarks for Multimodal Representation Learning
Paper accepted by NeurIPS 2021 Track Datasets and Benchmarks

Lexicon Creation for Interpretable NLP Models
Paper submitted to EMNLP 2021

Span Identification and Representation for Information Extraction

- Formulated entity mention detection problem under partially annotated datasets as a span ranking task, where a dedicated ranking loss is enforced to rank gold spans higher while not fully ablating unlabelled spans.
- Built an LSTM-based model to detect spans by conditioning on given spans, supporting extraction tasks such as event extraction.
- Investigated taking the SpanBERT-based coreference model as span proposal model to detect entity mentions, achieving recall above 0.9 and F1 score above 0.8 when finetuned with only a few training examples.

Research Assistant — Apr. 2018 – Aug. 2019
Intelligent Computing & System Lab — *Zhejiang University, China*

Anti-fraud Model for New Financial Leasing Services
Top Prize in China Collegiate Computing Contest-AI Innovation Contest

- Constructed two kinds of features: one is obtained from Bipartite Graph as statistical features and the other is extracted from Unipartite Graph using DeepWalk model as node embeddings.
- Built supervised learning model (DeepFM) using Baidu's PaddlePaddle framework, increasing the anti-fraud ability of the new financial leasing services by 6% on AUC

Interactive Rare-Category-of-Interest Mining from Large Datasets
Paper accepted by AAAI 2020

Work Experience

Machine Learning Engineer — Aug. 2019 – Mar. 2020
Hangzhou Enjoymusic Technology Co. Ltd. — *China*

- Built a sequence-to-sequence model for music style transferring using TransformerXL and Discriminator.
- Formulated automatic music piece generation problem as a conditional sequence generation task that decodes MIDI sequence from drum beats, and modelled with VAE architecture.
- Refactored Typescript Midi-me codes using Python for integration with our own platform and application.

Skills and Additional Information

Programming/Framework: Python, PyTorch, TensorFlow, AllenNLP, Linux, C/C++, MATLAB, R, SQL
Awards: Top Prize in China Collegiate Computing Contest-AI Innovation Contest, Honorable Award in COMAP
Honors: 2nd Level in Training Plan of the National Basic Subject Top-notch Talent Scholarship