JIAZHAO LI

1839 Shirley Ln, Ann Arbor, MI. 48105
(+1)734 604 1596, jiazhaol@umich.edu, https://jiazhaoli.github.io

EDUCATION

University of Michigan U.S *Sept. 2017 – Apr. 2019*
M.S in Electrical Computer Engineering, Computer Vision GPA: 3.826
Core Coursework: NLP, Information Retrieval, Data Mining, Machine Learning, Computer Vision
Nankai University China *Sept. 2013 – June. 2017*
B.S in Electrical Engineering GPA: 88/100
Core Coursework: Advanced Programming Language Design, Mathematical Physical Modeling

RESEARCH EXPERIENCE

Transformer-based Transcription between Prescription and Pharmacy Aug 2019 - Present
Research Associate *NLP4Health Group, University of Michigan*

- Built Transformer-based MT model between Prescription and Pharmacy directions corpus.
- Augmented model using MIMICIII domain pretrained embedding, external information from Drug/ Strength and adding lexical, phrase noise to text increasing model robustness.
- Applied ensemble learning and numerical checking to improve accuracy and avoid fictitious generations.
- Applied BLEU and SARI to do automatic evaluation and developed Web App to do manual evaluation.

Identify Medication Relations from Clinical Narratives [Paper] Nov. 2018 - Mar. 2019
Research Assistant *NLP4Health Group, University of Michigan*

· Identifying medication relations between drugs and associated attributes automatically from clinical narratives to develop advanced tools for decision support.

- Trained special domain word-embedding using word2vec on MIMICIII clinical notes dataset.
- Feature engineering including part-of-speech tag, named-entities-recognition tag, pre-trained token embedding and bi-direction relative position of target entities pair.
- Developed Bi-LSTM models to extract 8 relations between drug names and adverse events associated concepts with F1 0.892.

Movie Revenue prediction with Hierarchical Model [Poster] Jan. 2019 - Apr. 2019

- Observation movie revenue followed two Gaussian Distribution: High revenue and Low revenue.
- Trained High-low binary Random Forest Classifier based on labels from Gaussian Mixture Model clustering.
- Trained Gradient Boosting Regressor separately on two classes and used back-off strategy to solve cold start problem.
- Tested generalization of our classification regression model on Europe Soccer Players.

Video Segments Retrieval System based on Attentive CNN [Report] Sep. 2018 - Nov. 2018

- Augmented video clip embedding with context video using attentive CNN.
- Applied feature cross on video clip embedding and corresponding video content description text embedding.
- Trained ACNN on TACoS dataset with loss function on video-text similarity and offset of video clips achieved 0.347 (IoU=0.5) and 0.719 (IoU=0.1) in Top10.

Attention Based CNN: Sentiment Analysis for Yelp Reviews Sept. 2018 - Dec. 2018

- Combined Hierarchical CNN and Attention Mechanism to build a sentimental analysis classifier based on the Yelp review
- Applied NLTK and Word2Vec to implement text data processing, and rescale the label based on the data distribution
- Built CNN to capture N-gram information of text and introduced Attention Mechanism to improve the performance.
- The final accuracy of this model on the sentence level prediction is up to 69.85%.

SELECTED PROJECTS

PageRank++: European Soccer Team Ranking Prediction Jan. 2018 - Apr. 2018
Best poster of Graph Data Mining Course Project *University of Michigan*

· Designing PageRank++ algorithm to make a prediction on match result, where we redefined the meaning of edge in data graph.

- Applied K-mean to classify soccer player into 4 groups based on scores in 33 features in 5 fields of performance.
- Using PageRank iteration to predict rank with nodes representing feature vector of scores of players component for each team and edges of graph representing probability of win (directed).

Vision-based human-computer interaction game Nov. 2017 - Dec. 2017
Highest score project of Computer Vision course *University of Michigan*

- Developed hand-tracking architecture with ORB oriented descriptor matching batch picture in hand with video image captured by laptop camera.
- Designed HCI Brick Breakers game where the movement of broad is controlled by hand.

PUBLICATIONS

Jiazhao Li, Corey Lester, Yun Jiang, V.G.Vinod Vydiswaran *Transformer-based Transcription between Prescription and Pharmacy.* (In-process) Target ACL 2020 or AMIA
Xinyan Zhao, **Jiazhao Li**, Corey Lster, Yun Jiang, VG Vinod Vydiswaran *Focused representation models for transcribing prescription instructions.* MIDAS 2019 Symposium (Accepted)
Jiazhao Li, Jinghui Liu, VG Vinod Vydiswaran. *Neural Network Models to Identify Medication Relations-from Clinical Narratives.* MLHC 2019 (Submitted)
V.G.Vinod Vydiswaran, Shibamouli Lahiri, Hyeon Joo, Jinghui Liu, **Jiazhao Li**, Xinyan Zhao, Nabarup Maity, Farhan Siddiqui, Tanmay Basu *Developing Feature-rich Supervised Models to Extract Medication Information and Adverse Events from Clinical Narratives.* JAMIA 2019 (Submitted)

WORK EXPERIENCE

Research Associate(Aug 2019 - Present)	NLP4Health Group	Prof. VG Vinod Vydiswaran
Research Assistant(Aug 2018- Apr 2019)	NLP4Health Group	Prof. VG Vinod Vydiswaran
Teach Assistant (Jan 2019- Apr 2019)	Information Retrieval	Prof. Rada Mihalcea

SKILLS

Languages	Python, JavaScript, HTML, Julia, Matlab, SQL, C++,
Framework/OS	Tensorflow, PyTorch, Hadoop, Linux

HONORS AND AWARDS

- Sep. 2016. Third Prize Scholarship of the University (10%), NKU
- Sep. 2016. Merit Student of the University (5%), NKU