Zhuofeng Wu

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EDUCATION

University of Michigan, Ann Arbor, US   Aug 2018 – Apr 2023

Ph.D. in School of Information (Advisor: Qiaozhu Mei, Daniel Romero)
Machine Learning, Natural Language Processing & Networks

Zhejiang University, Hangzhou, China   Sept 2013 - Jun 2017

B.E. in Computer Science (Overall GPA: 3.82/4.0, Top 5% among all 215 students)
Pursuit Science Class, Chu Kochen Honors College (CKC College)
Received waiver for the National College Entrance Exam to enter Zhejiang University from **1st Prize in National Olympiad in Informatics in Provinces** (top 1.8% over 60,000 participants)

PUBLICATIONS

Zhuofeng Wu, Cheng Li, Zhe Zhao, Fei Wu, Qiaozhu Mei. *Identify Shifts of Word Semantics through Bayesian Surprise.* Proceedings of the 41st International ACM SIGIR conference on Research and Development in Information Retrieval. ACM, 2018 **(SIGIR'18)**

EXPERIENCE

Alibaba Group   May 2019 – Aug 2019
Research Intern, Advisors: Dr. Fei Sun

Seg-BERT: A Hierarchical Structure for Document Classification **(in-progress project)**

- Applied a hierarchical structure for the long text classification. Outperformed the state-of-the-art by a large margin on IMDB.
- Proposed to mask sentence in pre-training to improve the performance.

School of Information, University of Michigan   Aug 2018 – Present
Research Assistant, Advisors: Prof. Qiaozhu Mei, Prof. Daniel Romero

Relocation Prediction with Extra Information from Online Social Behavior on Twitter **(in-progress project)**

- Pre-trained a BERT model on Twitter, which provides other researchers with useful insights in how to capture hidden features on the noisy user-generated text.
- Proposed to extract extra information from online social behavior to help the relocation prediction task.

School of Information, University of Michigan   Apr 2016 – Apr 2018
Research Intern, Advisor: Prof. Qiaozhu Mei

Identify Shifts of Word Semantics through Bayesian Surprise

- Explicitly established the stable topological structure of word semantics and identified the surprising changes over time.
- Proposed a statistical framework to apply **Bayesian Surprise** in detecting the meaning-changed words in **temporal-based word semantic networks**. This framework can be generalized to finding the change points in many other networks such as social networks.
- Conducted experiments on ACMDL, DBLP and Google Books Ngram data set for synthetic evaluation which artificially introducing changes to a corpus. Outperformed the state-of-the-art by a large margin.
- This work was presented at **SIGIR'18** as oral and was adopted as a part of a **KDD'18 Workshop Keynote Talk** "Identifying Shifts in Evolutionary Semantic Spaces".

A Tool to Visualize the Evolution of Conference Topics

- Visualized a 40-year evolution of data science related communities and embedded papers, keywords, authors in the same space.
- Provided a powerful tool for researchers to model the research focus of different conferences.
- This work was presented in an invited talk in **KDD'18 Deep Learning Day** by Prof. Mei.

Digital Media Computing & Design Lab, Zhejiang University   Sept 2014 - Mar 2016
Research Assistant, Advisor: Prof. Fei Wu

Explored how to train different embedding models and implemented several word representation algorithms in C++.

SKILLS

Programming Languages: C, C++, Python, Verilog, Pascal
Frameworks & Tools: TensorFlow, LaTeX, Vim, Git
Language: Chinese (Native), English (Professional working proficiency)

MISC

Student volunteer for SIGIR'18.
I won 3rd Prize in Collegiate Programming Contest of Zhejiang University twice.
I won 1st Prize in National Olympiad in Informatics in Provinces in 2012.
I won 1st Prize in National Olympiad in Mathematics in Provinces in 2010.