Xu Mou

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EDUCATION

Institute of Systems Engineering, Xi'an Jiaotong University, Xi'an, China
- **Ph. D. Candidate**, Advisor: Qinke Peng, Ph.D, Professor   *Mar. 2019 – Present*
- **Research Interests:** NLP, Deep learning in sentiment analysis,
Graph neural network in sentiment analysis, Text generation.

Institute of Computer Science, Xi'an Jiaotong University, Xi'an, China
- **Graduate Student**, Advisor: Peng Zhao, Ph.D, Associate Professor   *Sep. 2017 – Jan. 2019*
- **Research Interests:** NLP, Deep learning in sentiment analysis,
Graph neural network in sentiment analysis, Text generation.

Xi'an Jiaotong University, Xi'an, China
- **Bachelor Degree, Major**: Computer Science   *Sep. 2013 – Jun. 2017*

HONORS & AWARDS

- Postgraduate Academic Scholarship   *every year from 2017 to 2020*
- Outstanding Postgraduate Award   *2017 – 2018*
- Siyuan Scholarship   *2015 to 2016*

RESEARCH EXPERIENCE

A Deep Learning Framework for News Reader's Emotion Prediction Based on Features from News Article and Pseudo Comments

- We predict news readers' emotions combined with comments information and construct pseudo comments representation for the unpublished news articles.
- We propose a deep framework that fuses news article information and news comment information, which has a significant improvement compared with no-comments methods.
- We propose a block emotion attention network that outperforms the state-of-the-art methods and also get the best performance among the deep learning models in our deep learning framework.

Transformer-Heterogeneous Graph Convolutional Networks for Social Emotion Prediction

- We introduce relationships among news articles to our task through a heterogeneous graph using word co-occurrence information in a corpus and emotion lexicon.
- We propose Transformer-Heterogeneous Graph Convolutional Network to both encode the semantic features of news articles and embed the heterogeneous graph by graph convolution and attention mechanism.
- We propose a lighter transformer with a low memory complexity for news encoding, which can alleviate the problem of high memory cost during full batch training of T-HGCN.

Some explorations on Text Summarization and Text Generation.

- Propose a two-stage model to improve the performance of sentiment classification through automatic text summarization
- Developed a Transformer-based model which can generate a variant emotional text to the question under a specific emotion such as anger, happy or other emotions.
- Propose a Transformer-based Pointer Generator Network which does better on learning long-range context dependencies and give attentions to previous step during decoding.

PUBLICATIONS

[1] **Xu Mou**, Qinke Peng, et al. A Deep Learning Framework for News Readers Emotion Prediction Based on Features from News Article and Pseudo Comments[J]. IEEE Transactions on Cybernetics. Under review.

[2] **Xu Mou**, Qinke Peng, et al. Transformer-Heterogeneous Graph Convolutional Networks for Social Emotion Prediction. IEEE Transactions on Affective Computing[J]. Under review

[3] Sun Z, Peng QK, **Mou X**, et al. An artificial intelligence-based real-time monitoring framework for Time Series[J]. Journal of Intelligent & Fuzzy Systems, 2021.

[4] Li, H., Wang, Y. **Mou, X**. and Peng, Qinke., 2020, November. Sentiment Classification of Financial Microblogs through Automatic Text Summarization. In 2020 Chinese Automation Congress (CAC). IEEE.

[5] Wang, Y., Peng, Qinke., **Mou, X**., 20120, November. An Effective Hybrid Deep Learning Model for Eukaryotic Promoter Identification. In 2020 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) (pp. 616-621). IEEE.

MISCELLANEOUS

- **Programming**: Python, Matlab, C++, javascript.
- Excellent mathematical skills and rich project experience.
- **Deep Learning**: Transformer, BERT, XL-Net, Seqeunce2seqeunce, SeqGAN, Recurrent NN, Recursive NN, Convolutional NN and other methods for NLP; familiar with Keras, Pytorch, and TensorFlow framework
- **Data Mining Techniques:** web crawler, SQL, NoSQL, data cleaning, integration, reduction and transformation, data visualization, etc.
- **Languages**: English (CET-6, TOFEL)
- **Interests:** Basketball, Swimming, and Playing the guitar.