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Personal Information

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Research Interest

Natural Language Processing
- Pre-trained Model

Graphs Mining
- Dynamic Attributed Network Embedding
- Textual Graph Embedding

Education

Sun Yat-sen University (SYSU), Guangzhou City, China, *Sep. 2013 – Now*

- PhD candidate in School of Data and Computer Science, *Sep. 2019 – Now*
- Major: Computer Science
- Supervisors: Prof. Qinliang Su, Prof. Xiaojun Quan

- M.E. in School of Data and Computer Science, *Sep. 2017 – Jun. 2019*
- Major: Software Engineering
- Supervisor: Prof. Yanghui Rao
- Ranked first in the postgraduate entrance examination

- B.E. in School of Data and Computer Science, *Sep. 2013 – Jun. 2017*
- Major: Software Engineering

Research Experience

Microsoft Research Asia (MSRA), Beijing City, China

Supervisors: Dr. Duyu Tang and Dr. Ming Gong

Pre-trained Model *Mar. 2020 – Jan. 2021*

- We present SEPREM that leverage syntax information to enhance pre-trained models. (Accepted by **ACL 2021**)
- To inject syntactic information, we introduce a syntax-aware attention layer and a newly designed pre-training task are proposed.
- Experimental re-sults show that our method achieves state-of-the-art performance over six datasets. Further analysis shows that the proposed dependency distance prediction task performs better than dependency head prediction task.

Cooperation

- We presented a graph-based reasoning approach for **Fact Checking**, where the semantic structure of evidence is mined and further leveraged to verify the truthfulness of the claim. (Accepted by **ACL 2020**)
- We present FAST, a graph-based reasoning approach utilizing fine-grained factual knowledge for **DeepFake Detection** of text. (Accepted by **EMNLP 2020**)

School of Data and Computer Science(SYSU), Guangzhou City, China

Supervisors: Prof. Qinliang Su and Prof. Xiaojun Quan

Dynamic Attributed Graph Embedding *Oct. 2019 – Jan. 2020*

- Many methods have been proposed to effectively embed each node in a static network into a low-dimension vector, but in many real world applications, networks are dynamic and evolving over time; (Accepted by **COLING 2020**)
- A challenging task is to predict the potential evolution trends based on the historical evolution of network;

- We are trying to understanding the formation and evolution of the network in dynamic environment over high-order spatio-temporal dimension.

Textual Graph Embedding *Oct. 2018 – Sep. 2019*

- We proposed a novel deep neural architecture to effectively fuse the structural and textual informations in network; (Accepted by **EMNLP 2019**)
- A complementary information fusing method is designed to address the information duplication problem in structural and textual features;
- A mutual gate is further developed to highlight the textual information in a node that is consistent with the textual contents of neighboring nodes, while diminishing those that are conflicting to each other.

Supervisor: Prof. Yanghui Rao

Sentiment Classification over Text *Sep. 2017 – Sep. 2018*

- We introduced supplementary information to tackle the sentiment reversing effect of negation words and also the sentiment shifting effect of intensity words. (Accepted by **APWeb-WAIM 2018**)
- We put forward the concept and extraction method of sentimental context to improve the performance on sentiment classification task. (Accepted by **BESC 2017**)

Publication

1. **Zenan Xu**, Daya Guo, Duyu Tang, Qinliang Su, Linjun Shou, Ming Gong, Wanjun Zhong, Xiaojun Quan, Daxin Jiang, and Nan Duan. **Syntax-Enhanced Pre-trained Model.** *Proceedings of the Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing* (**ACL-IJCNLP 2021**). Full paper. To appear.

2. **Zenan Xu**, Zijing Ou, Qinliang Su, Jianxing Yu, Xiaojun Quan, and Zhenkun Lin. **Embedding Dynamic Attributed Networks by Modeling the Evolution Processes.** *Proceedings of the 28th International Conference on Computational Linguistics* (**COLING 2020**). Full paper. To appear.

3. Wanjun Zhong, Duyu Tang, **Zenan Xu**, Ruize Wang, Nan Duan, Ming Zhou, Jiahai Wang and Jian Yin. **Neural Deepfake Detection with Factual Structure of Text.** *The 2020 Conference on Empirical Methods in Natural Language Processing* (**EMNLP 2020**).

4. Wanjun Zhong, Jingjing Xu, Duyu Tang, **Zenan Xu**, Nan Duan, Ming Zhou, Jiahai Wang and Jian Yin. **Reasoning Over Semantic-Level Graph for Fact Checking.** *The 58th Annual Meeting of the Association for Computational Linguistics* (**ACL 2020**).

5. **Zenan Xu**, Qinliang Su, Xiaojun Quan, and Weijia Zhang. **A Deep Neural Information Fusion Architecture for Textual Network Embeddings.** *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing* (**EMNLP 2019**). Full paper. To appear.

6. **Zenan Xu**, Yetao Fu, Xingming Chen, Yanghui Rao, Haoran Xie, Fu Lee Wang, and Yang Peng. Sentiment Classification via Supplementary Information Modeling. *Proceedings of the 2018 Asia-Pacific Web and Web-Age Information Management Joint International Conference on Web and Big Data.* (**APWeb-WAIM 2018**).

7. Wenjie Zheng, **Zenan Xu**, Yanghui Rao, Haoran Xie, Fu Lee Wang, and Reggie Kwan. Sentiment Classification of Short Text using Sentimental Context. *Proceedings of the 2017 International Conference on Behavioral, Economic, Socio-cultural Computing.* (**BESC 2017**).