LEI SHA

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EDUCATION

Peking University, Beijing   *September 2013 - July 2018*

PhD of Natural Language Processing, supervised by Zhifang Sui
Natural Language Processing. Major in *Event Extraction and Applications*

Beijing University of Technology, Beijing   *September 2009 - June 2013*

Bachelor of Computer Science.   GPA – 3.9

WORK EXPERIENCE

Siri NL, Apple Inc   August 2016 - present

NLP Research Scientist

· Improving dialogue domain classification.
· Classification-based chit-chat dialogue: We propose a teacher-student network to distill the rule knowledge (teacher model) into the neural classifier (student model). This method can give the neural model many hints about rules, which can improve the performance.
· Do research about chit-chat dialogue generation. I am mentoring my intern to complete a research about interest tracking chit-chat dialogue generation. We prepare to apply a queue architecture in an end-to-end dialogue model to track the interest words extracted from each user's utterance.

Microsoft Research Asia   July 2017 - February 2018

System Group Intern

Working on Dialogue system. We propose a proactive intent switch model that can detect and switch intents during dialogue turns. Our model uses a hybrid switch method to decide whether the current intent should be changed and which target intent should be switched to.

Microsoft Research Asia   November 2014 - June 2015

Knowledge Mining Group Intern

Working on Event Extraction. Read papers about event extraction, implement the new ideas and complete a paper.

RESEARCH INTERESTS

Natural Language Understanding Current NLP models tend to use more and more complex deep neural networks to memorize specific patterns of a task. However, without truly understanding of the natural language, inference based and reasoning based tasks cannot be really solved. Therefore, natural language understanding methods (e.g. semantic parsing, neural-symbolic grounding) are very valuable topics to be researched.

Controllable text generation Text generation usually comes together with neural machine translation, neural summary generation, table-to-text generation, etc. In some specific applications, we usually hope to change the generated text according to some external information. For example, changing the sentiment from positive to negative, or changing the key information to something else. Usually, the parallel data for this kind of task is very hard to obtain. Therefore, to generate controllable text in a few-shot way is very worth to research.

PUBLICATIONS

[1] Order-Planning Neural Text Generation From Structured Data.
Lei Sha, Lili Mou, Tianyu Liu, Pascal Poupart, Sujian Li, Baobao Chang and Zhifang Sui. In Proceedings of AAAI 2018 Conference, 2018. (AAAI 2018).

[2] Joint Extracting Event Trigger and Arguments Using dependency bridge Recurrent Tensor Network.
Lei Sha, Feng Qian, Baobao Chang and Zhifang Sui. In Proceedings of AAAI 2018 Conference, 2018. (AAAI 2018).

[3] Multi-View Fusion Neural Network for Answer Selection.
Lei Sha, Xiaodong Zhang, Feng Qian, Baobao Chang and Zhifang Sui. In Proceedings of AAAI 2018 Conference, 2018. (AAAI 2018).

[4] Will Repeated Reading Benefit Natural Language Understanding?
Lei Sha and Zhifang Sui. In Proceedings of NLPCC 2017 Conference, 2017. (NLPCC 2017).

[5] Reading and Thinking: Re-read LSTM Unit for Textual Entailment Recognition.
Lei Sha, Sujian Li, Baobao Chang and Zhifang Sui. In Proceedings of Coling 2016 Conference, 2016. (Coling 2016).

[6] Capturing Argument Connection for Chinese Semantic Role Labeling.
Lei Sha, Sujian Li, Baobao Chang and Zhifang Sui. In Proceedings of EMNLP 2016 Conference, 2016. (EMNLP 2016).

[7] RBPB: Regularization-Based Pattern Balancing Method for Event Extraction.
Lei Sha, Jing Liu, Chin-Yew Lin, Sujian Li, Baobao Chang and Zhifang Sui. In Proceedings of ACL 2016 Conference, 2016. (ACL 2016).

[8] Joint Learning Templates and Slots for Event Schema Induction.
Lei Sha, Sujian Li, Baobao Chang and Zhifang Sui. In Proceedings of NAACL 2016 Conference, 2016. (NAACL 2016).

[9] Recognizing Textual Entailment Using Probabilistic Inference.
Lei Sha, Sujian Li, Tingsong Jiang, Baobao Chang, and Zhifang Sui. In Proceedings of the EMNLP 2015 Conference, 2015. (EMNLP 2015).

[10] Table-to-text Generation by Structure-aware Seq2seq learning.
Tianyu Liu, Kexiang Wang, **Lei Sha**, Zhifang Sui, Baobao Chang. In Proceedings of AAAI 2018 Conference, 2018. (AAAI 2018).

[11] Topic Medical Concept Embedding: Multi-Sense Representation Learning For Medical Concept.
Feng Qian, Chengyue Gong, Luchen Liu, **Lei Sha**, Ming Zhang. In Proceedings of BIBM 2017 Conference, 2017. (BIBM 2017).

[12] Syntax Aware LSTM Model for Chinese Semantic Role Labeling.
Feng Qian, **Lei Sha**, Baobao Chang, Lu-chen Liu, Ming Zhang. In Proceedings of EMNLP 2017 Conference, 2017. (EMNLP 2017)

[13] A Progressive Learning Approach to Chinese SRL Using Heterogeneous Data.
Qiaolin Xia, **Lei Sha**, Baobao Chang, Zhifang Sui. In Proceedings of ACL 2017 Conference, 2017. (ACL 2017).

[14] Attentive Interactive Neural Networks for Answer Selection in Community Question Answering.
Xiaodong Zhang, **Lei Sha**, Sujian Li, Houfeng Wang. In Proceedings of AAAI 2017 Conference, 2017. (AAAI 2017).

[15] Encoding Temporal Information for Time-Aware Link Prediction.

Tingsong Jiang, Tianyu Liu, Tao Ge, **Lei Sha**, Sujian Li, Baobao Chang and Zhifang Sui. In Proceedings of EMNLP 2016 Conference, 2016. (EMNLP 2016).

[16] Towards Time-Aware Knowledge Graph Completion.
Tingsong Jiang, Tianyu Liu, Tao Ge, **Lei Sha**, Sujian Li, Baobao Chang and Zhifang Sui. In Proceedings of Coling 2016 Conference, 2016. (Coling 2016).

[17] Multi-label Text Categorization with Joint Learning Predictions-as-Features Method.
Li Li, Houfeng Wang, **Lei Sha**, Xu Sun, Baobao Chang, Shi Zhao. In Proceedings of EMNLP 2015 Conference, 2015. (EMNLP 2015)

[18] Event Schema Induction Based on Relational Co-occurrence over Multiple Documents.
Tingsong Jiang, **Lei Sha** and Zhifang Sui. In Proceedings of Natural Language Processing and Chinese Computing, 2014. (NLPCC 2014).

AWARDS

2018   Excellent Graduate

2017   Lee-Wai Wing Scholarship

2016   Merit Student, May 4th Scholarship

2015   "Stars of Tomorrow" in MSRA, Peking University PhD Fellowship

2014   The 3rd Prize in the ACM contest of Peking University

2013   Outstanding Graduate

2012   The 1st Prize in the 3rd "Lanqiao Cup" National Software Professional Design and Business Competition

2011   The National 2nd Prize in the China Undergraduate Mathematical Contest in Modeling, National Scholarship(**The only one** in my grade)

2010   The 2nd Prize in Chinese Mathematical Contest(Beijing division), Beichuan Scholarship(one of the two in my grade)

COMPUTER SKILLS

Intermediate   HTML, LATEX, Linux, Microsoft Windows

Advanced   PYTHON, JAVA, C/C++, MATLAB

Advanced   THEANO, TENSORFLOW

INTERESTS

Table Tennis, Badminton, Running

Swimming, Photographing, Playing Piano