

ZHIQING SUN

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EDUCATION

School of Electronics Engineering and Computer Science, Peking University Beijing, China
B.S. in Computer Science and Technology Sept. 2015 - July 2019 (Expected)

- Overall GPA: 3.6/4.0, **Top 5%** in the academic year of 2016-2017 & 2017-2018
- Awarded \$1200 National Scholarship in 2017 and \$1500 Schlumberger Scholarship in 2018 for academic excellence
- Won Outstanding Scientific Research Award in 2018 for research excellence
- Honor Track Courses: Introduction to Computing, Practice of Programming in C&C++, Data Structure and Algorithms, Algorithm Design and Analysis, Operating Systems, Computer Networks

RESEARCH & WORK EXPERIENCE

Google Brain Team, Google AI Beijing, China
Software Engineering Intern in Research, mentored by Dr. Denny Zhou Apr. 2019 - Present

I'm currently working on a project about model compression.

Key Laboratory of Machine Perception, Peking University Beijing, China
Research Intern, supervised by Prof. Zhi-Hong Deng Apr. 2017 - Present

- ***A Gap-based Framework for Chinese Word Segmentation***: Proposed a novel gap-based framework for Chinese word segmentation that simplifies this task into binary sequence labeling and utilized DenseNets and ResNets for feature extraction. The proposed model achieves performance comparable to the best RNN models.
- ***Segmental Language Modelling for Unsupervised Chinese Word Segmentation***: Developed the first neural model for unsupervised word segmentation, an intuitive generalization of vanilla neural language models, that directly models the segmental nature of the Chinese language.
- ***Algorithm Design and Analysis***: Led seminars and designed course projects as a Teaching Assistant.

Natural Language Computing Group, Microsoft Research Asia Beijing, China
Research Intern, mentored by Dr. Dongdong Zhang Oct. 2018 - Apr. 2019

- ***Machine Translation Quality Estimation***: Pre-train a Bi-directional Transformer for bilingual language modeling and fine-tune a Bi-directional Recurrent Neural Network for Quality Estimation (QE). The proposed model significantly outperforms the Microsoft online model on several in-house benchmarks, and currently ranks second on the leaderboard of WMT18 QE shared task for English-German Statistical Machine Translation (SMT).

Montreal Institute for Learning Algorithms, University of Montreal Montreal, Canada
Research Intern, supervised by Dr. Jian Tang and Prof. Jian-Yun Nie Mar. 2018 - Sept. 2018

- ***DivGraphPointer: Graph-based Diversified Keyphrase Extraction***: Designed a graph2seq model that represents documents as word graphs and encodes the word graphs with graph convolutional networks, and formulated a pointer network with two novel diversity mechanisms for extracting diverse keyphrases. The proposed model improves the seq2seq baseline model by significant margins because of these two contributions.
- ***Knowledge Graph Embedding***: Identified and examined three relation patterns crucial for knowledge graph embedding, created a new rotational distance model that can infer and model all three relation patterns, as well as proposed a novel adversarial negative sampling technique for efficiently and effectively training the model. The proposed model significantly outperforms existing state-of-the-art models for link prediction.

PUBLICATIONS

- [Zhiqing Sun](#), Jian Tang, Pan Du, Zhi-Hong Deng, Jian-Yun Nie, "DivGraphPointer: A Graph Pointer Network for Extracting Diverse Keyphrases", in *Proceedings of SIGIR 2019* (link)
- [Zhiqing Sun](#), Zhi-Hong Deng, Jian-Yun Nie, Jian Tang, "RotatE: Knowledge Graph Embedding by Relational Rotation in Complex Space", in *Proceedings of the ICLR 2019* (link)

- [Zhiqing Sun](#) and Zhi-Hong Deng, “Unsupervised Neural Word Segmentation for Chinese via Segmental Language Modeling” in *Proceedings of EMNLP 2018* (link)
- [Zhiqing Sun](#), Gehui Shen and Zhi-Hong Deng, “A Gap-Based Framework for Chinese Word Segmentation via Very Deep Convolutional Networks” on arXiv 1712.09509. (link)

AWARDS & ACTIVITIES

- Won Best Oral Award in the 6th Peking University Young Scientists Symposium on Informatics 2018.11
- Awarded Meritorious Winner in 2017 Mathematical Contest in Modeling (MCM) 2017.1
- Director of Academic Department in EECS School Student Union at Peking University 2016.9 - 2017.7

TECHNICAL SKILLS & LANGUAGE

- Expert: Python, C/C++, L^AT_EX, PyTorch, TensorFlow
- Basic: Lisp, SQL, MATLAB, Java
- Proficient in English: TOEFL 107 (R30 + L25 + S23 + W29), GRE 326 + 4.0 (V156 + Q170)

REFERENCE

- Full Professor **Zhi-Hong Deng**
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- Assistant Professor **Jian Tang**
Mila - Quebec Institute for Learning Algorithms
HEC Montréal
CIFAR AI Research Chair
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- Full Professor **Jian-Yun Nie**
RALI-Recherche Appliquée en Linguistique Informatique, Université de Montréal
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- Senior Staff Research Scientist **Denny Zhou**
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