Zhaohui LI

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EDUCATION

School of Computer and Control Engineering, Nankai University, China Aug 2012-Jul 2016

Bachelor of Computer Science.

Awards: Best Graduation Thesis Candidate (Score *96,* Top *0.5%*), "GongNeng" Scholarship of Nankai University (Top *5%*).

EMPLOYMENT

Institute of Computing Technology, Chinese Academy of Science, Beijing, China Jul 2016-Present

CAS Key Laboratory of Network Data Science and Technology

Research Assistant of *Professor Jun Xu.*

RESEARCH INTEREST

My research interest resides at *Reinforcement Learning* and *Nature Language Processing*. And I am now focusing on *Machine Reading Comprehension* task, which based on *Knowledge-based Deep Reinforcement Learning* models. Moreover, I hope my research results can be applied to *Health Care* and *Sports Applications* and can benefit more and more people all over the world.

Machine Reading Comprehension; Nature Language Processing; Deep Reinforcement Learning.

PUBLICATIONS

- **Zhaohui Li**, Yue Feng, Jun Xu, YanYan Lan, Jiafeng Guo, Yue Feng, Xueqi Cheng. Teaching Machines to Extract Main Content for Machine Reading Comprehension. The 33rd AAAI Conference on Artificial Intelligence (***AAAI'19 accepted***).
- **Zhaohui Li**, Jun Xu, YanYan Lan, Jiafeng Guo, Yue Feng, Xueqi ChengHierarchical Answer Selection Framework for Multi-passage Machine Reading Comprehension. The 24th China Conference on Information Retrieval. Springer, Cham, 2018: 93-104. (*One of eight CCIR'18* ***best paper candidates***).
- Tianyou Guo, Jun Xu, Xiaohui Yan, Jianpeng Hou, Ping Li, **Zhaohui Li**, Jiafeng Guo, and Xueqi Cheng. Ease the Process of Machine Learning with Dataflow. Proceedings of the 25th ACM International Conference on Information and Knowledge Management (CIKM'16). Indianapolis, USA, pp. 2437-2440, 2016. ***(1st undergraduate author)***
- Yuan Wang, **Zhaohui Li**, Jie Liu, Zhicheng He, Yalou Huang, Dong Li. Word Vector Modeling for Sentiment Analysis of Product Reviews. The conference on Natural Language Processing and Chinese Computing (NLPCC'14). Springer, Berlin, Heidelberg, 2014: 168-180.

RESEARCH EXPERIENCE

QUESTION ANSWERING

Extract Key Information for Machine Reading Comprehension | ICT | Research Assistant Dec 2017-Oct 2018

Advisor: Prof. *Jun Xu*, Department of Computer Science and Technology, Renmin University of China.

- Surveyed *Machine Reading Comprehension (MRC)* methods and *Deep Reinforcement Learning* models in NLP.
- Developed special attention mechanism to get better questions and passages representations.
- Proposed a model that could identify the main content from passages through Markov Decision Process.
- Implemented experiment on MS-MARCO dataset and archived high performance.
- Paper: *"Teach Machines to Learn Main Content for Machine Reading Comprehension"* was accepted by ***AAAI'19***. ***(1st author)***

Multi-Passage Machine Reading Comprehension Pipeline| ICT | Research Assistant Oct 2017-May 2018

Advisor: Prof. *Jun Xu*, Department of Computer Science and Technology, Renmin University of China.

- Surveyed *Question Answering (QA)* and *Machine Reading Comprehension (MRC)* methods.
- Implemented a pipeline (Select passage->Select sentence->Predict answer) for a Chinese MRC task DuReader.
- Paper: *"Hierarchical answer selection framework for Multi-passage Machine Reading Comprehension"* was accepted by ***CCIR'18*** as Best paper candidate. ***(1st author)***

SENTIMENT ANALYSIS

Word Vector Modeling for Sentiment Analysis | Nankai University | Research Assistant Jan 2014-Dec 2014

Advisor: Prof. *Jie Liu*, School of Computer Science, Nankai University

- Surveyed Word Vector Modeling method and analysis statistical attributes over Amazon Product Review Dataset.
- Improved *Word2Vec* by adding positive/negative labels which represent words' sentiment information on product reviews.
- Acquired the best *F1* score in the Competition of *NLPCC2014*.
- Paper: *Word Vector Modeling for Sentiment Analysis of Product Reviews* was accepted by ***NLPCC'2014***. ***(2nd author)***

MACHINE LEARNING SYSTEM

BDA: big data analysis as a service (http://159.226.40.104:18080/dev/)

Advisor: Prof. *Jun Xu*, Department of Computer Science and Technology, Renmin University of China Aug 2015-Dec 2017

- Responsible for the design of Big Data Analysis System and the coding of useful Machine Learning Algorithms of it.
- Implemented an efficient, high scalability data analysis system based on *HDFS*, Spark and used *Oozie* to create a pipeline between *HDFS* and *Spark*.
- Core member of designing *BDA Studio*, which is an *HCI* to enable the user to modify model on website visual interface.
- Used *Docker* to develop *BDA* to an open-source version system —— *EasyML* (https://github.com/ICT-BDA/EasyML) (***gained 1756 Stars on GitHub***)
- Paper: *Ease the Process of Machine Learning with Dataflow* was accepted by ***CIKM'2016*** as best Demo Paper Candidate. ***(1st undergraduate author)***

Global Information Hunter: A news data capture, analysis, and visualization system, which consists of Natural Language Understanding Engine, Knowledge Graph Engine, API Layer and Web App Layer.

Mentor: Prof. *Jiafeng Guo*, CAS Key Laboratory of Network Data Science and Technology, ICT Jan 2018-Present

- Team leader of Knowledge Graph Engine and API Layer (5 student members), one of the mentors of NLP Engine (2 mentors and 7 student members). And responsible for the code review work.
- Designed the structures and methods of 3 parts in NLP Engine, which are Sequence Tagging, Document Classification, and Sentiment Analysis.
- Established an Entity Knowledge Graph Schema and an Event Graph Schema, based on which Graph computing algorithms and API functions are implemented.

AWARDS AND HONORS

Captain of College Soccer Team (Gold Medal) | Nankai University | Team Leader May 2013-Jul 2015

"GongNeng" Scholarship of Nankai University (10 out of 200 students) Dec 2013

Interdisciplinary Contest in Modeling, "H" Award| Team member Feb 2015

SKILLS

Expert in ***Reinforcement Learning***

Familiar with *Deep Learning* and *TensorFlow*

Programming Languages: ***Python***, C++