Zili Wang

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EDUCATION

XiDian University, Xi'an, China Sep 2014 – July 2018

Bachelor of Engineering , Software Engineering

GPA: **3.4/4.0** MAJOR GPA: **3.7/4.0**

XiDian University, Xi'an, China Sep 2018 – July 2021

Master of Engineering, Computer Science

GPA: **3.8/4.0** MAJOR GPA: **3.9/4.0**

RESEARCH INTERESTS

I am interested in **Natural Language Processing** and **Information Retrieval**, especially in Controlled Text Generation, Text Summarization, Knowledge Graph, explainable AI.

PUBLICATIONS

[1] Fuli Luo*, Zili Wang*, Pengcheng Yang, Zhiqiang Liu, Baobao Chang, Zhifang Sui and Xu SUN, Towards Sentiment Controllable Poetry Generation: Task, Dataset, Method and Analysis, submitted to EMNLP (2019) on 05/22/2019

[2] Zili Wang, Canjia Li, Jiajie Mei, Jingang Wang, Shuo Yang, Fuzheng Zhang, Rao Fu, Peixu Hou, Gong Zhang, and Zhongyuan Wang, Query-Aware Tips Generation for Vertical Search, submitted to AAAI (2020) on 09/16/2019

[3] Canjia Li*, Zili Wang*, Jingang Wang, Fuzheng Zhang, Ben He, Jiahao Bu, Tian Lan, Peixu Hou and Zhongyuan Wang, Query-aware Tips Generation from User Reviews for Online-to-Offline Search, submitted to WWW (2020)

[4] Ruifeng Yuan, Zili Wang, Wenjie Li, Fact-level Extractive Summarization with Hierarchical Graph Mask on BERT, submitted to COLING(2020)

RESEARCH EXPERIENCE

Visitor, NLP Group, University of Illinois at Urbana-Champaign, United States Incoming

Advisor: Prof. Roxana Girju

Research Assistant, Hong Kong Polytechnic University, Hong Kong Dec 2019 – Present

Advisor: Prof. Wenjie Li

Project: New Generative Summarization Models based on Deep Neural Network Learning

- Propose the new text summarization model based on the graph convolutional networks.
- Construct the subgraph used to represent the event of news.
- Proposed the reasoning subgraph model to get valuable information of news.

Research Intern, Knowledge Graph Group, Meituan-Dianping Group, Beijing June 2019 – Dec 2019

Advisor: Dr. Fuzheng Zhang & Dr. Jingang Wang

Project: ***BERT-based application***

- Implemented BERT-Based applications, including DBQA, NER, XNLI, ChnSentiCorp, LCQMC.

- Implemented Fine-tuning of BERT in Multi-GPU based on horovod framework, which can speed up the model training and inference process.
- The results of these applications outperform the state-of-the-art models.

Project: ***Query-aware Tips Generation for Vertical Search***

- Proposed a query-aware tips generation framework, valuable especially in vertical search scenarios.
- Introduced query-aware encoders and decoders to enhance the encoder-decoder framework to generate query-aware tips from user reviews, including the RNN model and the Transformer model.
- Performed extensive experiments on a realistic dataset, both automatic and manual evaluations reveal the state-of-the-art performance of our proposed framework.

Project: ***Query-aware Tips Generation via Multi-Document Text Summarization***

- Proposed a query-aware tips generation model via Multi-Document Text Summarization, which can explain the search results to some extent and further improve user experience.
- Constructed two mechanisms in the Multi-Document Text Summarization model to take the query into account, including semantic-based pooling and relevance-based attention
- Performed extensive experiments on a realistic O2O dataset, both automatic/manual evaluations and online deployment reveal the state-of-the-art (SOTA) performance of our proposed model

Research Intern, Institute of Computational Linguistics, Peking University Oct 2018 – June 2019

Advisor: Prof. Xu Sun

Project: ***Sentiment Controllable Poetry Generation***

- Constructed a large-scale modern Chinese poetry dataset and label each sentence of poems with fine-grained sentiment intensity
- Proposed the generative models to integrate fine-grained sentiment label into poems generation based on Seq2Seq framework.
- Used the TextCNN model, LSTM-based language model and BLEU value as auto evaluations (our models deliver a strong performance of the controllability of sentiment)

Amazon AI Camp & New York University

Advisor: Prof. He He (New York University)

Project: ***Controllable Story Generation*** May 2018 – Sep 2018

- Extracted keywords of story with RAKE, TF-IDF algorithm as storyline, so the model can control the storyline of generated story
- Complemented TextCNN model to analyze the sentiment of story ending, including happy, not happy and uncertain
- Proposed the generative model for enabling interactive story generation by analyzing story corpora
- Integrated the sentiment of story ending into generative model

Intern Algorithm Engineer, Computer Vision Group, Baidu, Beijing Aug 2018 – Sep 2018

Advisor: Junyu Han

Project: ***Optical Character Recognition***

- Implemented Faster R-CNN model to detect text of the controlled scenes
- Constructed the text recognition model to detect plate numbers, including Convolutional Layers, Recurrent Layers and Connectionist Temporal Classification

- Our models achieved the state-of-the-art performance in text recognition accuracy

PROJECTS

Google AI ML Winter Camp Jan 2019 – Feb 2019

Advisor: Dr. Tian Lin (Google*)*

Project: ***News Summarization***

- Constructed the pointer generator model based on Seq2Seq framework, which integrates copynet and coverage mechanism.
- Used BERT Model as Pre-trained model improving the fluency and coherency of summarizations
- Used Rouge score as auto evaluation metric and our model got 0.34 in Rouge score

Summer School, Peking University July 2018 – Aug 2018

Advisor: Derui Wang (Baidu & Peking University)

Project: ***Hip hop lyrics Generation***

- Constructed a Hip-hop lyrics dataset and extract each topics of lyrics
- Proposed a generative model that integrates Skip-thought Vector Model, which can integrate topics of lyrics into model.
- Improved the coherency and smooth of generated lyrics with beam search method

AWARDS

- Meritorious Winner, Interdisciplinary Contest in Modeling(ICM), Internationally top 9% 2018
- 2nd Prize, National College Mathematical Contest in Modeling, Nationally top 1% 2017
- Honorable Winner, Interdisciplinary Contest in Modeling(ICM), Internationally 2017
- 1st Prize, College Student Mathematical Modeling Challenge Competition, Nationally 2016

SKILLS

- **Programming Language** C/C++, Java, R, Python, MATLAB
- **Web Development** HTML, JavaScript, CSS
- **Database Management** SQL Server Management Studio
- **Deep Learning Framework** TensorFlow, Pytorch, Gluon