

# 付振新 (Zhenxin Fu)

## Peking University

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## Personal

I am a second year graduate student at EECS and ICST, majoring in Computer Science and Natural Language Processing. I develop research interests in style transfer, dialog system and multi-task learning. I am also a member of the student cluster competition team of Peking University, knowing commonsense on popular developing tools.

## Education

- **B.S. Computer Science, EECS, Peking University, 2014-2018** : Major in computer science, developing interest in network, database and parallel computing.
- **M.S. Candidate. Natural Language Processing, ICST, Peking University, 2018-Present** : Major in Natural Language Processing, developing interest in style transfer, open-domain conversation.

## Competition & Internship

- **Student Cluster Competition at SC16, SC17 & ASC19, 2016, 2017 & 2019** : I am in charge of reproducing results of a given paper on our own cluster. We are selected to contribute to a special issue of the journal, Parallel Computing, as one of the top teams from reproducibility challenge. In ASC19, I worked as a coach.
- **Tencent Beijing 2017.4-2017.8** : Test Engineer(Intern) for virtual assistants & name entity recognition task using sequence labeling.
- **Alibaba Group 2018.8-Present** : Research Intern for Natural Language Processing in AliMe Team & DAMO Academy.

## Publications

- **Query-bag Matching with Mutual Coverage for Information-seeking Conversations in E-commerce**, CIKM (Short), 2019.  
*Zhenxin Fu, Feng Ji, Wenpeng Hu, Wei Zhou, Dongyan Zhao, Haiqing Chen, Rui Yan.*  
A bag containing lots of questions corresponds to a same answer. Ranking the bag directly helps the information-seeking conversation.
- **Semi-supervised Text Style Transfer: Cross Projection in Latent Space**, EMNLP-IJCNLP, 2019.  
*Mingyue Shang, Piji Li, Zhenxin Fu, Lidong Bing, Dongyan Zhao, Shuming Shi, Rui Yan.*  
Semi-supervised text style transfer with cross projection in latent space: cross training autoencoder, style transfer and latent space projection.

- **Multilingual Dialogue Generation with Shared-Private Memory**, NLPCC (English), 2019.  
*Chen Chen, Lisong Qiu, Zhenxin Fu, Junfei Li, Rui Yan.*  
Multilingual dialog generation with shared-private memory inspired from multi-task learning.
- **Automated ICD Coding Based on Word Embedding with Entry Embedding and Attention Mechanism** (基于融合条目词嵌入和注意力机制的自动 ICD 编码), NLPCC (Chinese), 2019.  
*Hongke Zhang, Zhenxin Fu, Qianping Ren, Hui Xu, Dongyan Zhao, Rui Yan.*  
A classification model for International Classification of Disease (ICD) with item embedding and label attention.
- **Find a Reasonable Ending for Stories: Does Logic Relation Help the Story Cloze Test?** AAAI Student Abstract and Poster Program, 2019.  
*Mingyue Shang, Zhenxin Fu, Hongzhi Yin, Bo Tang, Dongyan Zhao, Rui Yan.*  
Natural language inference is used to promote story cloze test.
- **Student Cluster Competition 2017, Team Peking University: Reproducing Vectorization of the Tersoff Multi-Body Potential on the Intel Broadwell Architecture**, Parallel Computing (Journal), 2018.  
*Zhenxin Fu, Lei Yang, Wenbin Hou, Zhuohan Li, Yifan Wu, Yihua Cheng, Xiaolin Wang, Yun Liang.*  
The report of reproducibility challenge for the student cluster competition at SC17.
- **Learning to Converse with Noisy Data: Generation with Calibration**, IJCAI-ECAI, 2018.  
*Mingyue Shang, Zhenxin Fu, Nanyun Peng, Yansong Feng, Dongyan Zhao, Rui Yan.*  
Noise training cases harm training process of generation-based dialog system. So we integrate instance weight into dialog system to overcome the problem.
- **One "Ruler" for All Languages: Multi-Lingual Dialogue Evaluation with Adversarial Multi-Task Learning**, IJCAI-ECAI, 2018.  
*Xiaowei Tong, Zhenxin Fu, Mingyue Shang, Dongyan Zhao, Rui Yan.*  
We apply multi-task learning in open-domain dialog evaluation.
- **Style Transfer in Text: Exploration and Evaluation**, AAAI, 2018.  
*Zhenxin Fu, Xiaoye Tan, Nanyun Peng, Dongyan Zhao, Rui Yan.*  
We propose unsupervised sequence to sequence model to transfer text from style A to style B. For example, converting paper title to news title.
- **ParConnect Reproducibility Report**, Parallel Computing (Journal), 2017.  
*Lei Yang, Yilong Li, Zhenxin Fu, Zhuohan Li, Wenbin Hou, Haoze Wu, Xiaolin Wang, Yun Liang.*  
The report of reproducibility challenge for the student cluster competition at SC16.

## Others

- **Reviewer:** AAAI-2019, ACL-2019, EMNLP-2019, INLG-2019.
- **Teaching assistant:** Introduction to Natural Language Processing: Foundation, Theory and Application, Spring 2019.
- **Scholarship:** Wang Xuan Scholarship, first prize for the undergraduate internship at ICST.

# 付振新

北京大学

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## 简介

北京大学计算机科学技术研究所硕士一年级在读，研究方向为自然语言处理。感兴趣的研究领域包括文本风格迁移，开放域对话系统和多任务学习。同时，作为北大超算队队员，参加过 SC16、SC17 和 ASC19 大学生超算比赛。

## 教育经历

- 学士学位 北京大学 信息科学技术学院 2014-2018: 专业为计算机科学与技术，对网络，数据库，并行计算等方向比较有兴趣。
- 硕士在读 北京大学 计算机科学技术研究所 2018-今: 专业为自然语言处理，对文本风格迁移，开放域对话系统比较有兴趣。

## 比赛和实习

- 大学生超算比赛 (SC16, SC17, ASC19): 在前两次比赛中负责论文复现部分（在自有集群上复现一篇 SC 会议论文）。由于该项目上较高的成绩，我们受邀在期刊 *Parallel Computing* 上展示我们的复现报告。以教练的身份参加 ASC19。
- 腾讯北京 2017.4-2017.8: 智能助手测试，命名实体识别。
- 阿里巴巴 2018.8--今: 自然语言处理方向研究型实习生，阿里小蜜 & 达摩院团队。

## 论文

- **Query-bag Matching with Mutual Coverage for Information-seeking Conversations in E-commerce**, CIKM (Short), 2019.  
*Zhenxin Fu, Feng Ji, Wenpeng Hu, Wei Zhou, Dongyan Zhao, Haiqing Chen, Rui Yan.*  
Bag 有一些列问题组成，这些问题对应相同的回复。通过用户问题和 Bag 的匹配增强对话系统。
- **Semi-supervised Text Style Transfer: Cross Projection in Latent Space**, EMNLP-IJCNLP, 2019.  
*Mingyue Shang, Piji Li, Zhenxin Fu, Lidong Bing, Dongyan Zhao, Shuming Shi, Rui Yan.*  
半监督的文本风格迁移，交叉训练风格迁移，自编码器，隐变量映射。
- **Multilingual Dialogue Generation with Shared-Private Memory**, NLPCC (English), 2019.  
*Chen Chen, Lisong Qiu, Zhenxin Fu, Junfei Li, Rui Yan.*  
基于共享-私有 Memory 的多语言对话模型，受多任务学习启发。
- **Automated ICD Coding Based on Word Embedding with Entry Embedding and Attention Mechanism** (基于融合条目词嵌入和注意力机制的自动 ICD 编码), NLPCC (Chinese), 2019.  
*Hongke Zhang, Zhenxin Fu, Qianping Ren, Hui Xu, Dongyan Zhao, Rui Yan.*  
病例自动化编码，利用条目表示和类别注意力的分类模型。

- **Find a Reasonable Ending for Stories: Does Logic Relation Help the Story Cloze Test?** AAAI Student Abstract and Poster Program, 2019.  
*Mingyue Shang, Zhenxin Fu, Hongzhi Yin, Bo Tang, Dongyan Zhao, Rui Yan.*  
利用自然语言推理辅助故事结尾预测任务。
- **Student Cluster Competition 2017, Team Peking University: Reproducing Vectorization of the Tersoff Multi-Body Potential on the Intel Broadwell Architecture**, Parallel Computing (Journal), 2018.  
*Zhenxin Fu, Lei Yang, Wenbin Hou, Zhuohan Li, Yifan Wu, Yihua Cheng, Xiaolin Wang, Yun Liang.*  
为 SC17 大学生超算比赛的论文复现报告。
- **Learning to Converse with Noisy Data: Generation with Calibration**, IJCAI-ECAI, 2018.  
*Mingyue Shang, Zhenxin Fu, Nanyun Peng, Yansong Feng, Dongyan Zhao, Rui Yan.*  
对话数据含有大量的噪声，数据质量对模型效果有较大影响。本文提出将 Instance Weight 应用到对话生成，使不同质量的数据样本对模型更新有不同影响。
- **One "Ruler" for All Languages: Multi-Lingual Dialogue Evaluation with Adversarial Multi-Task Learning**, IJCAI-ECAI, 2018.  
*Xiaowei Tong, Zhenxin Fu, Mingyue Shang, Dongyan Zhao, Rui Yan.*  
将 Multi-task 思想引入到对话评测当中，不同语言之间互相促进。
- **Style Transfer in Text: Exploration and Evaluation**, AAAI, 2018.  
*Zhenxin Fu, Xiaoye Tan, Nanyun Peng, Dongyan Zhao, Rui Yan.*  
本文提出一种无监督的序列到序列模型，将一句话从一种风格转换为另一种风格。并且提出了两个评价指标作为对该研究方向的促进。
- **ParConnect Reproducibility Report**, Parallel Computing (Journal), 2017.  
*Lei Yang, Yilong Li, Zhenxin Fu, Zhuohan Li, Wenbin Hou, Haoze Wu, Xiaolin Wang, Yun Liang.*  
为 SC16 大学生超算比赛的论文复现报告。

## 其他

- 审稿人: AAAI-2019, ACL-2019, EMNLP-2019, INLG-2019.
- 助教: 自然语言处理导论: 基础, 理论与应用, 2019 年春.
- 奖学金: 北大计算所王选奖学金 (一等) .