Fangkai Jiao

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Education

- **2015 - 2019 B.E.** Software Engineering, Shandong University.
- **2019 - 2022 M.E. (expected)** Computer Science and Technology, Shandong University, mentored by **Prof. Liqiang Nie**

Experience

- **2018.10 - 2019.08** Internship at Tsinghua Unversity CoAI Lab, mentored by Prof. Minlie Huang.
- **2020.07 - 2021.02** Internship at Damo Academy, mentored by Dr. Feng Ji.

Research Interest

- Machine Reading Comprehension and Question Answering
- Large-scale Pretraining

Publication

- A Self-Training Method for Machine Reading Comprehension with Soft Evidence Extraction (ACL 2020)

  Yilin Niu, **Fangkai Jiao***, Mantong Zhou, Ting Yao, Jingfang Xu and Minlie Huang*

Project

- **SLQA: Multi-Granularity Hierarchical Attention Fusion Networks**

  An implementation of a system for machine reading comprehension based on Pytorch with testing on CoQA.

  Github：**https://github.com/SparkJiao/SLQA**

- **A Pre-training Method to Bridge the Gap between Language Model and QA System via Internal Retrieval**

  We proposed a new pre-training method with two internal retrieval based self-supervised tasks to bridge the gap between pre-trained language models and question answering system during fine-tuning.

  (Prepared for submission to ACL 2021)

- **Conversational Image Search via Knowledge Enhanced Representation Learning**

  We proposed a new model employing the knowledge enhanced image representation and fine-grained session query representation, which achieved a new state-of-the-art on our augmented MMD dataset.

  (Prepared for submission to TIP)

- **Enhanced Multi-Domain Dialogue State Tracker with Slot Interaction**

  A BERT-based hierarchical multi-domain dialogue state tracker augmented with context-aware value copy mechnism to model the relationship between different slots. The model achieved the joint accuracy as 53.65% on MultiWOZ2.1 dataset.

  (Rejected by CIKM 2020)

Award and Honor

- Dean Scholarship of College in Software Engineering, 2018
- Bronze Medal in The ACM-ICPC Asia Regional Contest Urumqi Site, 2017
- Silver Medal in The ACM-ICPC Asia Regional Contest Qingdao Site, 2017
- Bronze Medal in The ACM-ICPC Asia Regional Contest China-Final, 2016
- Silver Medal in The ACM-ICPC Asia Regional Contest Qingdao Site, 2016
- National Scholarships of Shandong University, 2016

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教育经历

- 2015 - 2019 **本科** 山东大学 软件工程
- 2019 - 2022 **硕士** 山东大学 计算机科学与技术 导师：聂礼强教授

研究兴趣

- 机器阅读理解和智能问答
- 对话系统
- 预训练模型

发表论文

- A Self-Training Method for Machine Reading Comprehension with Soft Evidence Extraction (ACL 2020)

  *Yilin Niu, **Fangkai Jiao**, Mantong Zhou, Ting Yao, Jingfang Xu and Minlie Huang*

实习经历

- 2018.10 - 2019.08 清华大学人工智能研究院CoAI课题组 *Intern*
  - 参与机器阅读理解课题研究，作为共同一作产出论文一篇
  - 参与实验室与好未来合作项目，交付基于BERT的用于口语流利度检测的系统
- 2020.07 - 2021.02 达摩院机器智能技术 X-LAB *Research Intern*
  - 负责探索预训练技术在QA任务当中的应用，产出论文一篇并准备投稿至ACL 2021

项目经历

- SLQA: Multi-Granularity Hierarchical Attention Fusion Networks

  基于Pytorch和AllenNLP框架复现的机器阅读理解模型，模型使用了双向注意力和动态融合机制。

- 多领域对话状态追踪

  基于BERT的层次化结构的多领域对话状态追踪模型，针对现有工作较少考虑到不同槽位之间关系的现状，提出了基于上下文信息的槽值拷贝机制，在Multi WOZ2.1数据集上 Joint Accuracy 达到了53.65%。

  (Rejected by CIKM 2020)

- 用于对话式多模态推荐系统的知识强化的检索模型

  提出了基于图注意力网络的对话编码器和基于注意力机制的知识编码器的联合模型，在拓展后的MMD数据集的商品图片检索任务上取得了sota的成绩。

- 用于问答系统的基于序列内部检索的预训练方法

  目前将预训练语言模型用于下游QA任务的方式依赖于特殊分类符号（如［CLS］）的表示，由于训练的目标函数不同，这种方式和下游的QA任务存在一定程度的不一致。我们提出了两种基于检索的预训练任务用于训练通用的查询向量表示，并在下游QA任务（多项选择、开放域问答、片段抽取）使用检索的方式完成任务，在多个数据集上取得性能的提升。

  (Ready for submission to ACL 2021)

曾获奖项

- 2018年山东大学软件学院院长奖学金
- 2017年ACM-ICPC亚洲区域赛青岛赛区银牌
- 2017年ACM-ICPC亚洲区域赛乌鲁木齐赛区铜牌
- 2016年ACM-ICPC亚洲区域赛青岛赛区银牌
- 2016年ACM-ICPC China Final（上海）铜牌
- 2016年山东大学国家奖学金