Xiao Song

CONTACT INFORMATION

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RESEARCH INTERESTS

Combination of Computer Vision, Natural Language Processing and Healthcare, including Medical Report Generation, Image Captioning.

EDUCATION

Beijing University of Technology, Beijing, China. **September 2020 – Present**

- M.Eng, in Computer Science and Technology, GPA: 3.85/4.
- Advisor: Xiaodan Zhang

University of Jinan, Jinan, Shandong, China. **September 2016 – June 2020**

- B.Eng, in Computer Science and Technology, GPA: 3.48/4.
- Advisor: Lixin Du

RESEARCH EXPERIENCE

Postgraduate, Beijing University of Technology. **September 2020 – present**

Advisor: Xiaodan Zhang

- Cross-modal Contrastive Attention Model for Medical Report Generation: mining the potential visual and semantic information from the historical cases for assisting medical report generation. (accepted by *COLING* 2022 Oral)
- Multi-scale Superpixel based Hierarchical Attention Model for Brain CT Classification: using superpixel to plot the lesion regions, extracting the appearance information and semantic information, and fusing multi-scale information from coarse to fine with a hierarchical structure. (accepted by *JVCIR*.)
- Multi-scale Superpixel based Fusion Network for Brain CT Classification. (accepted by *China Sciencepaper.*)
- A Method for Automatic Medical Report Generation based on Cross-modal Contrastive Attention Mechanism. (patent, in second trialing)

Undergraduate, University of Jinan. **September 2016 – June 2020**

Advisor: Lixin Du

- A class roll call system based on face recognition. (Shandong University Student Artificial Intelligence Competition, Second-Prize, Fourth Place)
- A portal game based on Unity. (Shandong University Student Software Design Competition, Second-Prize)

HONORS AND AWARDS

- Academic Excellence Scholarship (Second-Class, Top 10%), Beijing University of Technology, 2020-2021.
- Mathematics Competition of Chinese College Students (First Prize), 2019.
- Outstanding Graduates, University of Jinan, 2020.

PUBLICATIONS

Xiao Song, Xiaodan Zhang, Junzhong Ji, Ying Liu, Pengxu Wei. (2022) Cross-modal Contrastive Attention Model for Medical Report Generation. In *The 29th International Conference on Computational Linguistics (COLING). (pp. 2388-2397)*. Oral.

Xiao Song, Xiaodan Zhang, Junzhong Ji, Ying Liu. (2022) Multi-scale Superpixel based Hierarchical Attention Model for Brain CT Classification. In *Journal of Visual Communication of Image Representation*, 91(2):103773.

Junzhong Ji, Menglong Zhang, **Xiao Song,** Xiaodan Zhang. (2022) Multi-scale Superpixel based Fusion Network for Brain CT Classification. In *China Sciencepaper.* 17(11):1173-1180.

PATENTS

张晓丹(Xiaodan Zhang), **宋晓(Xiao Song)**, 冀俊忠(Junzhong Ji). 一种基于跨模态对比注意力机制的医学报告自动生成方法(A Method for Automatic Medical Report Generation based on Cross-modal Contrastive Attention Mechanism). (CN202210563429.6, second trial)

ACADEMIC CONFERENCE

- The 29th International Conference on Computational Linguistics (COLING), October 12-17, 2022, Remote, Oral presentation.
- China Multimedia 2022, Guiyang, China, July 20-22, 2022.

TEACHING EXPERIENCE

Advising the Undergraduate Thesis "基于检索的医学报告自动生成方法研究(Research on Retrieval-based Medical Report Automatic Generation)", Beijing University of Technology, 2022.

SKILLS

Language: CET-6, IELTS band: 6.
Programing Language: Python, C++, C, PHP, HTML, Java, SQL.
Deep Learning Frameworks: Pytorch.