GELEI XU

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SUMMARY

- Undergraduate major in Intelligent Science and Technology with a 3.67/4 GPA
- Seeking a Master/PhD position in artificial intelligence and machine learning
- Experienced in medical image processing research and paper writing
- Proficient in classic machine learning algorithm implementation
- Strong English language skills

EDUCATION

B.S Candidate in Intelligent Science and Technology Expected Jun. 2023
Department of Computer Science and Technology, Southern University of Science and Technology

PUBLICATIONS

[1] **Gelei Xu**, Yawen Wu, Jingtong Hu, and Yiyu Shi, "Achieving Fairness in Dermatological Disease Diagnosis through Automatic Weight Adjusting Federated Learning and Personalization," In Submission.

[2] **Gelei Xu***, Xiaoqing Zhang*, Zunjie Xiao, Risa Higashita, Wan Chen, Jin Yuan, and Jiang Liu, "Automatic Cortical Cataract Classification Framework Based on AS-OCT Images," Computer Systems & Applications (CSA), 2022, 31(12).

[3] Zunjie Xiao, Xiaoqing Zhang, Qingyang Sun, Zhuofei Wei, **Gelei Xu**, Yuan Jin, Risa Higashita, and Jiang Liu, "A Novel Local-Global Spatial Attention Network for Cortical Cataract Classification in AS-OCT," Pattern Recognition and Computer Vision: 5th Chinese Conference (PRCV 2022).

[4] Xiaoqing Zhang, **Gelei Xu**, Junyong Shen, Zunjie Xiao, Qiuyang Yan, Jin Yuan, Risa Higashita, Jiang Liu, "Channel-Wise and Spatial Feature Recalibration Network for Nuclear Cataract Classification," 2022 IEEE International Conference on Multimedia and Expo (ICME 2022).

[5] Xiaoqing Zhang, Zunjie Xiao, Lingxi Hu, **Gelei Xu**, Risa Higashita, Wan Chen, Jin Yuan, Jiang Liu, "CCA-Net: Clinical-awareness Attention Network for Nuclear Cataract Classification in AS-OCT," Knowledge-Based Systems (KBS), 2022, 250.

RESEARCH EXPERIENCE

Southern University of Science and Technology Jun. 2021 - Present
iMED (Intelligent Medical Imaging) *Prof. Jiang Liu*

- Proposed an automatic cortical cataract classification framework based on AS-OCT images, utilizing texture features such as gray-level co-occurrence matrix (GLCM), gray-level size zone matrix (GLSZM), and neighborhood gray tone difference matrix (NGTDM).
- Developed a multimodal-based automatic method for nuclear cataract classification.
- Participated in *The Ministry of Education's National College Students' Innovative Entrepreneurial Training Program*, where we have built an intelligent diagnosis and screening platform for cataracts.

ADDITIONAL EXPERIENCE

Southern University of Science and Technology Sept. 2020 - Jan. 2021
Course C/C++ Program Design *Prof. Shiqi Yu*

- Independently built a convolutional neural network for face detection without using any deep

learning frameworks, achieving a top 10% ranking in the class.

Southern University of Science and Technology Sept. 2021 - Jan. 2021

Course Computer Vision *Prof. Feng Zheng*

• Incorporated clinical features into convolutional neural networks to improve the accuracy of glaucoma classification results and enhance their interpretability.

Southern University of Science and Technology Sept. 2021 - Jan. 2022

Course Machine Learning *Prof. Qi Hao*

• Achieved high accuracy in completing classification and segmentation tasks on ModelNet, ShapeNet, and S3DIS datasets by utilizing 3D point cloud, as well as applied these results to the automatic driving dataset nuscene and received good segmentation results in practice.

ADDITIONAL EXPERIENCE

Languages: IELTS 7.5, CET-4 579, CET-6 568

2nd prize (2021) and 3rd prize (2020) in "FLTRP.ETIC Cup" English Public Speaking Contest

Programming Languages: Python, Java and C++

Instruments: PyTorch, Sklearn, Microsoft Office, and Latex