Chen Chen

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Education

Beihang University (BUAA), Beijing, China 2019.09 – 2022.01

Master student in Computer technology(GPA: 3.57 / 4.0)

Taiyuan University of Technology (TYUT), Shanxi, China 2015.09 – 2019.06

Bachelor student in Computer science and technology (GPA: 4.3 / 5.0, top 1% of majors)

Experience

Hangzhou Innovation Insitute, Beihang University Associate Researcher 2022.01 – Present

Brief introduction:

- Supervised student research, including medical image segmentation, LLM controlling collaborative robots(based on a key project in Zhejiang Province), visual SLAM based on NICE-SLAM(based on a key project in Zhejiang Province).
- Leading the development of collaborative robots, including software development and hardware integration etc..
- Participate in Huawei Mindspore development, solo development 12 operators for vison and audio, including AdjustGamma, Vad, GriffinLim, MelScale, InverseMelScale, etc..

Research Project: Domain Knowledge Guided Breast Cancer Medical Imaging Classification 2019 – 2021

Brief introduction: Based on ultrasound images and contrast-enhanced ultrasound videos, we propose a novel diagnosis model. The model includes a backbone of 3D CNN and two attention module which incorporates domain knowledge from radiologists. The final model achieves a sensitivity of 97.2% and an accuracy of 86.3% on our Breast-US-CEUS dataset.

Publication: Chen C, Wang Y, Niu J, et al. Domain Knowledge Powered Deep Learning for Breast Cancer Diagnosis Based on Contrast-Enhanced Ultrasound Videos[J]. **IEEE Transactions on Medical Imaging**, 2021, 40(9): 2439-2451. **(IF:10.078, JCR Q1.)**

My work: Design the whole network and complete the code individually, finish the paper under the supervision of co-author and corresponding author.

Research Project: Dual-modal Breast Tumor Medical Imaging Segmentation 2021 – 2022

Brief introduction: Based on ultrasound and contrast-enhanced ultrasound images, we propose an iterative mutual-aid network(IMAN) for breast tumor segmentation. In IMAN, there are two subnets for different modalities. Besides, to achieve multi-modalities information fusion, we designed a cross pathway between two subnets, the margin mask generator for each subnet, and an iteration training mode. The final model achieves an 81.16% dice score on CEUS images and 83.96% DICE on US images. This work is in the pre-submission stage.

My work: Design the whole network and complete the code individually, finish the paper under the supervision of the co-author and corresponding author.

Honors and Awards

China National Scholarship 2018

Meritoriours Winner of Mathematical Contest In Modeling(MCM) organized by COMAP 2017

Scholarship from Alumni of Xiaoqing Guo and Weiou Zhou 2017

One-star Volunteer for ShanXing 100 Charity Activity organized by CFPA 2015

Individual Scholarship for each year of master's degree and bachelor's degree

Skills

- Programming Languages: Python > C++ > JAVA
- Languages: English - Elementary proficiency, Mandarin - Native speaker