Shishuai Hu

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Overview

Shishuai Hu is currently a Ph.D. candidate in the Shaanxi Provincial Key Laboratory of Speech and Image Information Processing (SAIIP), School of Computer Science and Engineering, Northwestern Polytechnical University (NPU), supervised by Prof. Yong Xia. His research focuses on deep learning techniques for medical image segmentation, with particular interests in domain adaptation. Shishuai has achieved good results in several medical image analysis-related challenges, including the first place in COVID-19 lung CT lesion segmentation challenge 2020, the second place in carotid vessel wall segmentation and atherosclerosis diagnosis challenge 2022, and the second place in kidney parsing challenge 2022.

Education

- **Northwestern Polytechnical University** — Xi'an, Shaanxi, China
  School of Computer Science and Engineering — Sep. 2020 – Present
  - Ph.D. Candidate of Computer Science and Technology
  - Advisor: Prof. Yong Xia
- **Northwestern Polytechnical University** — Xi'an, Shaanxi, China
  Honors College — Sep. 2016 – Jun. 2020
  - B.E. in Computer Science and Technology (GPA: 88.2 / 100, Ranking: 33 / 140)
  - Thesis: A Study on Kidney Tumor Segmentation on CT Images Using Deep Learning
  - Advisor: Prof. Yong Xia

Awards and Honors

- **Innovation Award** in Kidney Parsing Challenge — Sep. 2022
- **Second Place** in Carotid Vessel Wall Segmentation and Atherosclerosis Diagnosis Challenge — Aug. 2022
- **Second Place** in Kidney Parsing Challenge — Aug. 2022
- **Top-5** in Multi-Modality Abdominal Multi-Organ Segmentation Challenge — Aug. 2022
- **Second Prize** in MICS Student Presentation Challenge — Aug. 2022
- **First Place** in COVID-19 Lung CT Lesion Segmentation Challenge — Jan. 2021
- **Second Prize** in the Challenge of Segmentation of Pulmonary Tissues in the 4th ISICDM — Dec. 2020
- **Third Prize** in the Challenge of Acceleration of MR Imaging in the 4th ISICDM — Dec. 2020
- University Graduate Fellowship, Northwestern Polytechnical University — Sep. 2020, Sep. 2021
- MICCAI Undergraduate Student Travel Award — Aug. 2019
- Honors College Scholarship, Northwestern Polytechnical University — Sep. 2019, Sep. 2018, Sep. 2017

Publications

[1] S. Hu, Z. Liao, and Y. Xia. "**Domain Specific Convolution and High Frequency Reconstruction based Unsupervised Domain Adaptation for Medical Image Segmentation.**" Medical Image Computing and Computer Assisted Interventions (MICCAI'22), 2022.

[2] S. Hu, Z. Liao, J. Zhang, and Y. Xia. "**Domain and Content Adaptive Convolution based Multi-Source Domain Generalization for Medical Image Segmentation.**" IEEE Transactions on Medical Imaging (IEEE-TMI), 2022.

[3] S. Hu, J. Zhang, and Y. Xia. "**Boundary-Aware Network for Kidney Tumor Segmentation.**" Machine Learning in Medical Imaging (MLMI'20), 2020.

[4] Z. Liao, Y. Xie, S. Hu, and Y. Xia. "**Learning From Ambiguous Labels for Lung Nodule Malignancy Prediction.**" IEEE Transactions on Medical Imaging (IEEE-TMI), 2022.

[5] Z. Liao, S. Hu, Y. Xie, and Y. Xia. "**Modeling Human Preference and Stochastic Error for Medical Image Segmentation with Multiple Annotators.**" Preprint, 2021.

References

■ Yong Xia, Professor, Northwestern Polytechnical University; **yxia@nwpu.edu.cn**