Xiaoqing GUO

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EDUCATION

City University of Hong Kong (CityU), Hong Kong — Sep. 2018 - Present
Ph.D. in Electrical Engineering (EE), GPA: 3.925/4
Supervisor: Prof. Yixuan Yuan

Beihang University (BUAA), Beijing, China — Sep. 2014 - Jun. 2018
B.E. in Biomedical Engineering (BME), GPA: 3.64/4
Supervisor: Prof. Yu Wang (**Honor: Outstanding Undergraduate Thesis Award**)

PREVIOUS WORK EXPERIENCE

Tsinghua University, Beijing, China — Sep. 2017 - Jul. 2018
Research Assistant in Department of Electrical Engineering (EE)
Supervisor: Prof. Yongfeng Huang

RESEARCH INTERESTS

Medical Image Analysis, Deep Learning.

My research interests include abnormality recognition and segmentation. Recently, I am dedicated to making adequate use of unannotated data and augmenting the limited training data.

PUBLICATIONS (GOOGLE SCHOLAR)

1. **Xiaoqing Guo**, Yixuan Yuan. "Semi-supervised WCE Image Classification with Adaptive Aggregated Attention." *Medical Image Analysis (**MedIA**)*, 101733, 2020. (**Impact Factor: 11.148**)
2. Zhen Chen, **Xiaoqing Guo**, Chen Yang, Bulat Ibragimov, Yixuan Yuan. "Joint Spatial-Wavelet Dual-Stream Network for Super-Resolution." *The 23nd International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI 2020**)*, Lima, Peru.
3. **Xiaoqing Guo**, Zhen Chen, Yixuan Yuan. "Complementary Network with Adaptive Receptive Fields for Melanoma Segmentation." *The 17th IEEE International Symposium on Biomedical Imaging (**ISBI 2020**)*, Iowa City, Iowa, USA.
4. **Xiaoqing Guo**, Chen Yang, Pak Lun Lam, Peter Y.M. Woo, Yixuan Yuan. "Domain Knowledge Based Brain Tumor Segmentation and Overall Survival Prediction." *Brain Lesion (BrainLes) workshop of MICCAI 2019*, Shenzhen, China.
5. **Xiaoqing Guo**, Yixuan Yuan. "Triple ANet: Adaptive Abnormal-aware Attention Network for WCE Image Classfication." *The 22nd International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI 2019**)*, Shenzhen, China. (Early Accept)
6. Yixuan Yuan, Wenjian Qin, **Xiaoqing Guo**, Mark Buyyounouski, Steve Hancock, Bin Han, Lei Xing. "Prostate Segmentation with Encoder-Decoder Densely Connected Convolutional Network (ED-DenseNet)." *The 16th IEEE International Symposium on Biomedical Imaging (**ISBI 2019**)*, Venice, Italy.

7. Zhongliang Yang, **Xiaoqing Guo**, Ziming Chen, Yongfeng Huang, Yujin Zhang. "RNN-stega: Linguistic steganography based on recurrent neural networks." *IEEE Transactions on Information Forensics and Security (**TIFS**)*, 14(5): 1280-1295, 2019. (**Impact Factor: 6.211**)
8. Siyuan Shan, Wen Yan, **Xiaoqing Guo**, Eric I Chang, Yubo Fan, Yan Xu. "Unsupervised End-to-end Learning for Deformable Medical Image Registration." *arXiv*, https://arxiv.org/abs/1711.08608

RESEARCH EXPERIENCES

Automatic Segmentation of Polyp in Endoscopy Images Dec. 2019 - Present

- Data augmentation to enrich limited training dataset
- Solve class imbalance problem
- Self-paced learning
- Threshold learning for polyp segmentation

Automatic Diagnosis for Wireless Capsule Endoscopy Images Sep. 2018 - Dec. 2019

- Classification and localization for WCE images
- Abnormality detection based on attention mechanism
- Semi-supervised learning for WCE image analysis

Diagnosis of Brain Tumor in MRI Sep. 2018 - Present

- Automatic brain tumor segmentation
- Survival and grading prediction with incorporating clinical information

Melanoma Segmentation for Dermoscopy Images Jan. 2019 - Sep. 2019

- Semi-supervised learning for automatic melanoma segmentation

Coverless Text Steganography Nov. 2017 - Jul. 2018

- Coverless information hiding based on recurrent neural networks
- Constructed a language model network to automatically generate a high-quality text according to a secret bit stream

Medical Image Registration Jan. 2017 - Jun. 2018

- 2D/3D (X-ray/CT) medical image registration using Convolutional Neural Network
- 2D (CT or MRI) medical image registration with unsupervised learning strategy

SELECTED AWARDS

- **Outstanding Academic Performance Award (OAPA)**, City University of Hong Kong, 2019
- **Research Tuition Scholarship (RTS)**, City University of Hong Kong, 2019 - 2020
- **Honorable Mention**, Mathematical Contest in Modeling (MCM), 2016
- **Grand Prize**, the 25th "Feng Ru Cup" Competition of Innovation, BUAA, 2015

PROFESSIONAL ACTIVITIES

Technical Reviewers

- MICCAI 2019

Conference Presentations

- MICCAI 2019, Shenzhen, China Oct. 2019
- ISBI 2019, Venice, Italy Apr. 2019