

Xi Fang

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RESEARCH INTEREST	Artificial Intelligence, Machine Learning, Medical Image Analysis, Computer Vision, Efficient AI, Multi-scene multi-object segmentation	
EDUCATION	Rensselaer Polytechnic Institute Department of Biomedical Engineering	08/2018 - Present
	Wuhan University School of Computing	09/2014 - 06/2018
RESEARCH EXPERIENCE	Research Assistant Deep Imaging Analytics Lab, Rensselaer Polytechnic Institute	09/2018 - Present
	<ul style="list-style-type: none">Supervised by Dr. Pingkun YanDevelop liver segmentation in CT images using Deep CNN for fusion guided intervention in collaboration with NIH.Develop efficient AI training strategy for robust model learning over multiple partially labeled datasets (https://github.com/DIAL-RPI/PIPO-FAN).	
	Research team member The School of Computing, Wuhan University	09/2016 - 08/2017
INTERN EXPERIENCE	<ul style="list-style-type: none">Supervised by Dr. Bo DuLearned different deep learning methods.Applied popular deep neural networks, including FCN and U-Net to segment prostate in MRI images.	
	Research Intern State Key Laboratory of Intelligent Technology and Systems, Tsinghua University	09/2017 - 02/2018
	<ul style="list-style-type: none">Supervised by Dr. Xiaolin HuCompleted on image captioning task by developing new attention method based on saliency.	
	Deep Learning Executive Engineer(Intern) Infervision	03/2017 - 05/2017
	<ul style="list-style-type: none">A project cooperated with Tongji HospitalApplied deep learning methods to detect lung nodules in chest X-ray images.Alleviated false positive problem by introducing a new class.	
AWARDS	Ranked the top 12th among 94 students in Duke Tsinghua MLSS 08/2017 <ul style="list-style-type: none">With strong recommendation letter from Dr. Lawrence Carin, Vice Provost for Research, Duke University	

Publications

1. **Xi Fang**, Uwe Kruger, Fatemeh Homayounieh, Hanqing Chao, Jiajin Zhang, Subba R. Digumarthy, Chiara D. Arru, Mannudeep K. Kalra, Pingkun Yan, "Association of AI Quantified COVID-19 Chest CT and Patient Outcome", International Journal of Computer Assisted Radiology and Surgery (2020)
2. **Xi Fang**, Thomas Sanford, Baris Turkbey, Sheng Xu, Bradford J. Wood, and Pingkun Yan, "Division and Fusion: Rethink Convolutional Kernels for 3D Medical Image Segmentation", International Workshop on Machine Learning in Medical Imaging, pp. 160-169. Springer, Cham, 2020
3. Hanqing Chao, **Xi Fang**, Jiajin Zhang, Fatemeh Homayounieh, Chiara D. Arru, Subba R. Digumarthy, Rosa Babaeic, Hadi K. Mobinc, Iman Mohsenic, Luca Sabad, Alessandro Carrieroe, Zeno Falaschie, Alessio Paschee, Ge Wang, Mannudeep K. Kalra, Pingkun Yan. "Integrative analysis for COVID-19 patient outcome prediction", Med Image Analysis. 2020;67:101844. doi: 10.1016/j.media.2020.101844
4. **Xi Fang**, Pingkun Yan, "Multi-organ Segmentation over Partially Labeled Datasets with Multi-scale Feature Abstraction", IEEE transaction on medical imaging (Impact factor: 9.710), doi: 10.1109/TMI.2020.3001036. 06/2020
5. **Xi Fang**, Sheng Xu, Bradford J Wood, Pingkun Yan, "Deep learning-based liver segmentation for fusion-guided intervention", International Journal of Computer Assisted Radiology and Surgery (2020). <https://doi.org/10.1007/s11548-020-02147-6> 04/2020
6. Zhao Peng, **Xi Fang**, Pingkun Yan, Hongming Shan, Tianyu Liu, Xi Pei, Ge Wang, Bob Liu, Mannudeep K Kalra, X George Xu, "A method of rapid quantification of patient-specific organ doses for CT using deep-learning-based multi-organ segmentation and GPU-accelerated Monte Carlo dose computing", Medical Physics (2020). <https://doi.org/10.1002/mp.14131> 03/2020
7. **Xi Fang**, Bo Du, Sheng Xu, Bradford J Wood, Pingkun Yan, "Unified Multi-scale Feature Abstraction for Medical Image Segmentation", Medical Imaging 2020: Image Processing. Vol. 11313. International Society for Optics and Photonics, 2020. (Oral) 03/2020
8. Zengmao Wang, **Xi Fang**, Xinyao Tang, Chen Wu, "Multi-Class Active Learning by Integrating Uncertainty and Diversity", IEEE Access 6: 22794-22803 (2018) 03/2018

Experience

1. Reviewer for MICCAI, Neuro Computing, Medical Physics
2. Talk in SPIE Medical Imaging conference, Deep Learning Journal Club, MLMI, Graduate Student Research Symposium

TECHNOLOGY SKILLS

Programming Languages:

- Python
- Matlab
- C/C++

Deep Learning Software Libraries:

- PyTorch

- MXNet
- TensorFlow