RONGYAO FANG

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EDUCATION

Shanghai Jiao Tong University
Sept.2016 - Present

B.Eng., School of Electronic Information and Electrical Engineering.

Zhiyuan Honors Program of Engineering (An elite program for TOP 5% students in Shanghai Jiao Tong University).

Major: Information Engineering (Artificial Intelligence track).

Overall GPA: 92.16/100 or 4.0/4.3, Ranking: $1^{st}/157$

Research: Independent researcher under the supervision of Prof. Bingbing Ni (nibingbing@sjtu.edu.cn).

Massachusetts Institute of Technology
July 2019 - Present

Computer Science and Artificial Intelligence Laboratory.

Research: Independent visiting scholar under the supervision of Prof. Dina Katabi (dina@csail.mit.edu), collaborate with graduate student Tianhong Li (tianhong@mit.edu).

University of Washington, Seattle
July 2017 - Aug.2017

Exchange program in Department of Electrical & Computer Engineering, University of Washington.

Overall GPA: 3.86/4.0

RESEARCH INTERESTS

My research interests lie in computer vision and deep learning, particularly 3D computer vision, and the application in wireless sensing, medical imaging, adversarial examples, and other related areas.

PUBLICATION

Learning Longterm Representations for Person Re-Identification Using Radio Signals

Lijie Fan*, Tianhong Li*, **Rongyao Fang***(equal contribution), Rumen Hristov, Yuan Yuan, Dina Katabi. IEEE Conference on Computer Vision and Pattern Recognition (**CVPR 2020**).

Probabilistic Radiomics: Ambiguous Diagnosis with Controllable Shape Analysis

Jiancheng Yang*, **Rongyao Fang***(equal contribution), Bingbing Ni, Yamin Li, Yi Xu, Linguo Li. International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2019. (Early Acceptance) (Link)

Adversarial Attack and Defense on Point Sets

Jiancheng Yang*, Qiang Zhang*, **Rongyao Fang***(equal contribution), Bingbing Ni, Jinxian Liu, Qi Tian. In submission to IEEE Transactions on Information Forensics and Security (**IEEE TIFS**). (Link)

RESEARCH PROJECTS

Person Re-identification with Radio Frequency Data
July 2019 - Nov. 2019

Advisor: Prof. Dina Katabi

○ Constructed a novel person re-identification SOTA vision model based on wireless data.

○ Achieved high-performance and robust to people's appearance changes.

○ First authored paper in submission to **CVPR 2020**.

Learnable and Explainable *Probabilistic Radiomics*
July 2018 - March 2019

Advisor: Prof. Bingbing Ni

○ Developed a novel CNN-based 3D classification and segmentation model on lung nodule.

○ Designed *probabilistic radiomics*: $DenseSharp^+$, which has comparable performance with the most successful models and is more controllable and explainable than previous work.

○ Leveraged available training data with ambiguity labels to train explainable deep networks for computer-aided lung nodule diagnosis.

○ First authored paper early accepted by **MICCAI 2019**.

Adversarial Attack and Defense on 3D Point Cloud Data *July 2018 - Jan. 2019*

Advisor: Prof. Bingbing Ni

○ Constructed three novel 3D point cloud attack operations which reduced the accuracy of PointNet to 0%.

○ Developed a flexible *perturbation-measurement* scheme for point cloud data to detect specific potential adversarial samples with a ratio of 95.21%.

○ Achieved the transferability of adversarial samples between different point cloud networks and between CNNs and point cloud nets.

○ First authored paper submitted to **IEEE TIFS**.

HONORS AND AWARDS

National Scholarship *2017 & 2018*

Top 1%, Ministry of Education of P.R.China.

Zhiyuan College Honors Scholarship *2017 & 2018*

Top 5%, Zhiyuan College, Shanghai Jiao Tong University.

First Prize of Undergraduate Physics Contest, Shanghai Division *Oct. 2017*

Shanghai Physical Society.

Tang-Lixing Scholarship *Oct. 2018*

Top 1 student in School of Electronic Information and Electrical Engineering.

First Prize of Academic Excellence Scholarship *Nov. 2018*

Top 1%, Shanghai Jiao Tong University.

Merit Student *2017 & 2018*

Top 10%, Shanghai Jiao Tong University.

TECHNICAL SKILLS

Programming Languages: Python, MATLAB, C/C++, Java

Platforms and Tools: LaTeX, LabVIEW, Verilog, VHDL, HFSS