

RONGYAO FANG

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EDUCATION

Shanghai Jiao Tong University

Sept. 2016 - Present

Undergraduate, Dept. of EE, 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: Electronic Engineering (Artificial Intelligence track).

Overall GPA: 92.16/100 or 4.00/4.3, Ranking: **1st/158**

Research: Independent researcher in Prof. Bingbing Ni's group.

Massachusetts Institute of Technology

July 2019 - Present

Research: Visiting scholar under the supervision of Prof. Dina Katabi in CSAIL.

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 medical imaging, as well as the application in wireless sensing and adversarial example. I am open to exploring other interesting topics.

PUBLICATION

Anonymous Submission

Advisor: **Dina Katabi**

Rongyao Fang*, Tianhong Li*, Lijie Fan*, Rumen Hristov, Dina Katabi.

Area: Application of 3D computer vision in wireless data.

To be submitted to **CVPR 2020**.

Probabilistic Radiomics: Ambiguous Diagnosis with Controllable Shape Analysis

Jiancheng Yang*, **Rongyao Fang*** (equal contribution), Bingbing Ni, etc.

Advisor: **Bingbing Ni**

The 22nd International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2019. (Early Acceptance)

Adversarial Attack and Defense on Point Sets

Advisor: **Bingbing Ni**

Jiancheng Yang*, Qiang Zhang*, **Rongyao Fang*** (equal contribution), Bingbing Ni, Jinxian Liu, Qi Tian.

In submission to **IEEE TIFS**. ([Arxiv](#))

RESEARCH PROJECTS

Learnable and Explainable *Probabilistic Radiomics*

July 2018 - March 2019

- Developed a novel CNN-based 3D classification and segmentation model on lung nodule.
- Proposed *probabilistic radiomics: DenseSharp⁺*, which has comparable performance with the most successful models and is controllable and explainable.
- 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

- Proposed 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**.

Human Motion Transfer by Aligning Component

July 2018 - Nov. 2018

- Proposed a method of human articulated motion transfer based on Dense Pose.
- Applied the conditional variational autoencoder to transfer texture details.

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.