

# Rongyao Fang

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## Education

### Shanghai Jiao Tong University

*Sept. 2016 – Present*

Undergraduate, Dept. of Electronic Engineering, 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* **91.91/100**, Ranking: **1<sup>st</sup>/158**, Final Year: 93.05/100.

*Research* Independent researcher in Prof. [Bingbing Ni](#)'s group.

### 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 adversarial example. I am open to exploring other interesting topics.

## Publication

### Probabilistic Radiomics: Ambiguous Diagnosis with Controllable Shape Analysis

Jiancheng Yang\*, **Rongyao Fang\***(equal contribution), Bingbing Ni, Yamin Li, Yi Xu, Linguo Li.

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

### 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 TIFS**. ([Arxiv](#))

### Component Aligned Human Motion Transfer

Wendong Zhang, Minghao Xu, Bingbing Ni, **Rongyao Fang**, Yunxiang Zhang, Xiaokang Yang, Wenjun Zhang.

To be submitted to **ICCV 2019**.

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## Research Projects

*July – Dec.* **Learnable and Explainable *Probabilistic Radiomics***

- 2018
- Developed a novel CNN-based 3D classification and segmentation model on lung nodule.
  - Proposed *learnable radiomics: DenseSharp<sup>+</sup>*, which has comparable performance with the most successful models and is controllable and explainable.
  - Leverage available training data with ambiguity labels to train explainable deep networks for computer-aided lung nodule diagnosis.
  - Responsible for the network architecture and results section of the paper writing.

*July – Nov.* **Adversarial Attack and Defense on 3D Point Cloud Data**

- 2018
- Proposed three novel 3D point cloud attack operations which reduced the accuracy of PointNet up to 0%.
  - Developed a flexible *perturbation-measurement* scheme for point cloud data to detect specific potential adversarial samples with a ratio of 95.21%.
  - Investigated the transferability of adversarial samples between different point cloud networks and between CNNs and point cloud nets.
  - Responsible for the defense and transferability section of the paper writing.

*July – Nov.* **Human Motion Transfer by Aligning Component**

- 2018
- Proposed a method of human articulated motion transfer based on Dense Pose.
  - Applied the conditional variational autoencoder to transfer texture details.

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## Honors and Awards

2017 & 2018 **National Scholarship**

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

2017 & 2018 **Zhiyuan College Honors Scholarship**

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

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

Shanghai Physical Society.

*Oct. 2018* **Tang-Lixing Scholarship**

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

*Nov. 2018* **First Prize of Academic Excellence Scholarship**

TOP 1%, Shanghai Jiao Tong University.

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