Rongyao Fang

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: **1st/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. (Early Acceptance)

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.

In submission 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 *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.
- 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.

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 Physics 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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