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: Electronic Engineering (Artificial Intelligence track).
Overall GPA: 92.2/100 or 4.0/4.3, Ranking: **1^{st}/158**
Research: Independent researcher in Prof. Bingbing Ni's group.

Massachusetts Institute of Technology *July 2019 - Present*

Computer Science and Artificial Intelligence Laboratory.
Research: Independent visiting scholar under the supervision of Prof. Dina Katabi.

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

Anonymous Submission

Rongyao Fang*, Tianhong Li*, Lijie Fan*(equal contribution), 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, Yamin Li, Yi Xu, Linguo Li.
The 22nd 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 TIFS**. **(Link)**

RESEARCH PROJECTS

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**.

Human Motion Transfer by Aligning Component *July 2018 - Nov. 2018*

Advisor: Prof. Bingbing Ni
◦ 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.

SKILLS AND LANGUAGES

Languages: Python, MATLAB, C++, LaTeX, Java, LabVIEW, Verilog, VHDL, HFSS

TOFEL: R27, L27, S21, W26, Total 101

GRE: V151, Q170, AW3.5