

Education

Shanghai Jiao Tong University

MASTER OF SCIENCE(MSC), ROBOTICS AND INTELLIGENCE GROUP, ROBOTICS INSTITUTE

Shanghai, China

Sep. 2016 - Jun. 2019(expected)

- Overall **Ranking 6th/210** | GPA: Overall: 3.55/4
- Advisor: Prof. Weixin Yan & Prof. Yanzheng zhao

Shandong University

BACHELOR OF SCIENCE(BSC), MECHATRONICS

Jinan, China

Sep. 2012 - Jun. 2016

- Overall **Ranking 1st/66** | GPA: Overall: 86.08/100 | Major: 94.42/100
- Honor: Outstanding Undergraduate Thesis Award

Research Interests

My research interests broadly include Deep Learning, Machine learning, Medical image analysis and Robotics. Currently, I am focusing on interdisciplinary researches at medical image analysis and deep Learning.

Publications

Unpaired MR to CT Synthesis with Correlation Coefficient Constrained Adversarial Learning

YUNHAO GE, ZHONG XUE, YIQIANG ZHAN, XIANG ZHOU

SPIE-Image Processing
(accepted)

Aug. 2018

Unpaired MR to CT Synthesis with Explicit Structural Constrained Adversarial Learning

YUNHAO GE*, DONGMING WEI*, ZHONG XUE, YIQIANG ZHAN, XIANG ZHOU, QIAN WANG, SHU LIAO

IEEE International Symposium on
Biomedical Imaging (ISBI)
(under review)

Oct. 2018

Automatic Detection and Segmentation of rectal cancer based on combination of Deep Neural Network and Machine learning methods

YUNHAO GE, BIN LI, WEIXIN YAN, TIANYE NIU

Medical Image Analysis

Jun. 2018(under review)

A Real-time Gesture Prediction System Using Neural Networks and Multimodal Fusion based on data glove

YUNHAO GE, BIN LI, WEIXIN YAN, YANZHENG ZHAO [PAPER](#)

IEEE 10th International Conference
on Advanced Computational
Intelligence (ICACI'18)

Mar. 2018

Melanoma Segmentation and Classification in Clinical Images Using Deep Learning

YUNHAO GE, BIN LI, ENGUANG GUAN, WEIXIN YAN, YANZHENG ZHAO [PAPER](#)

ACM 10th International Conference
on Machine Learning and
Computing (ICMLC'18)

Jan. 2018

Benign and malignant mammographic image classification based on Convolutional Neural Networks

BIN LI, YUNHAO GE, ENGUANG GUAN, WEIXIN YAN, YANZHENG ZHAO [PAPER](#)

ACM 10th International Conference
on Machine Learning and
Computing (ICMLC'18)

Jan. 2018

Effect of Mechanical Error on Dual-Wedge Laser Scanning System and Error Correction

YUNHAO GE, JIHAO LIU, WEIXIN YAN, YANZHENG ZHAO [PAPER](#)

Applied Optics

June. 2018

Dynamic Drive Performances of the Bionic Suction Cup Actuator Based on Shape Memory Alloy

YUNHAO GE, JIHAO LIU, HUIHUA MIAO, WEIXIN YAN, YANZHENG ZHAO [PAPER](#)

Intelligent Robotics and
Applications

Aug. 2017

Research Projects

Unpaired Cross modality Image Synthesis

Shanghai United Imaging
Intelligence Co., Ltd, China

ADVISOR: [DINGGANG SHEN](#)

June. 2018 - Nov. 2018

- Proposed an explicit structural constrained adversarial learning method to address the mismatch of anatomical structures in the synthesized results which is unique in MR to CT image synthesis
- Designed a novel correlation coefficient loss and a shape discriminator incorporating the shape consistency to overcome the big variance in whole body image mapping and reduce the MAE from 107.03 to 78.34

Automatic Detection and Segmentation of Rectal Cancer

Shanghai Jiao Tong University,
China

ADVISOR: [TIANYE NIU](#), WEIXIN YAN

Jan. 2018 - Jul. 2018

- Designed a Co-predicted neural network which using complementary decision algorithm imitating the diagnostic process of doctors to improve image-level detection accuracy
- Proposed an automatic detection and segmentation algorithm with multimodality medical image input and multialgorithm fusion, which achieved the rectal cancer detection accuracy improved from 88% to 92% as well as the segmentation AP from 0.4 to 0.7

Shanghai Jiao Tong University,
China

Real-time Gesture Prediction on Medical Robotics

ADVISOR: WEIXIN YAN

Nov. 2017 - Mar. 2018

- Proposed a real-time gesture prediction system achieving 99.9% accuracy in judging the intention of hand motion and predicting the exact final gesture before the end of hand movement
- Combined Position, velocity, acceleration and the adjacent finger-coupling feature information as well as fused neural network and multiclass support vector machine (SVM) to make multi-level decision which shorten the reaction time in 0.1ms

Classification and Segmentation: Computer-Aided Diagnosis and Deep Learning

Shanghai Jiao Tong University,
China

ADVISOR: WEIXIN YAN

Mar. 2017 - Dec. 2017

- Built four CNN models to study the impact of depth and hidden layer structure on model performance and achieved a balance of high sensitivity (90.63%) and high specificity (87.67%), and improved accuracy from 86.7% to 89.05% in mammographic images diagnose
- Proposed a deep learning computer aided diagnosis system (CADs) for automatic segmentation and classification of melanoma lesions by combining high level features, the DLCM features, statistical and contrast location features

Skills

Programming Python (Numpy, Pytorch, Tensorflow, Caffe, Keras, Sklearn), OpenCV, PyQt, Matlab, C, C++, CUDA, Shell, LaTeX
Design Solidworks, CAD, UG, Ansys

Honors & Awards

SCHOLARSHIPS

Sep 2017	National Scholarship(Graduate) , top 1% nationwide	Shanghai, China
Sep 2015	National Scholarship(UnderGraduate) , top 2% nationwide	Jinan, China
Sep 2015	Presidential Scholarship , top 0.2% in Shan Dong University	Jinan, China
Sep 2015	BaoGang Excellent student Scholarship , Only 4 excellent students awarded in Shandong University	Jinan, China
May 2018	KaiYuan Motivational Scholarship , top 0.5% in Shanghai Jiao Tong University	Shanghai, China
2013-2015	First Prize Scholarship , three-year continuous	Jinan, China

CONTESTS

Aug 2017	The first prize , 2017 ROBOMASTER The World's Leading Robotics Competition (Responsible for the design of electronic control in robotics)	Shenzhen, China
Mar 2018	Rank 1st (preliminary competition) , Tianchi: Precision medical competition-Artificial Intelligence Aided genetic risk prediction of diabetes Pred-diabetes	Shanghai, China
Oct 2015	The first prize , 9th international college students innovation and entrepreneurship contest	Beijing, China

Patent & software

Pulmonary Nodular Assisted Detection System Based on AI(V1.0)

BIN LI, [YUNHAO GE](#) 2018SR037095

Software
Jan. 2018

A two-layer barrier free parking robotics based on bionic manipulator

[YUNHAO GE](#), SHANGZE YANG, ZHENG ZHANG, WEIXIN YAN, YANZHENG ZHAO CN201610712048

Patent for invention
Jan. 2017