

JIAXIANG REN

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EDUCATION

Tongji University, Shanghai, China

September 2015 - April 2018

M.Eng. in Computer Science & Technology

Advisor: Professor Shengjie Zhao

Thesis: The Research on the Sparse-based Subspace Clustering Algorithm in High-dimensional Data

Tongji University, Shanghai, China

September 2011 - June 2015

B.Eng. in Computer Science & Technology

Overall GPA: 4.00/5.00, Major GPA: 4.39/5.00, Rank: 26/150

Thesis: Randomized Algorithms for Matrices and Data

RESEARCH INTEREST

- Object Detection and Segmentation, Face Recognition, 3D Reconstruction
- Deep Learning, Unsupervised Learning, Sparse Approximation

PUBLICATION

Jiaxiang Ren, Shengjie Zhao, Kai Yang and Brian Zhao, “A Novel and Robust Face Clustering Method via Adaptive Difference Dictionary,” in *Proc. of IEEE International Conference on Multimedia & Expo Workshops (ICMEW)*, 2017. (Oral)

RESEARCH EXPERIENCE

Deep Learning based Data Mining on Oceanic Big Data

September 2017 - March 2018

Interdisciplinary Project, with Dr. Shengjie Zhao, Dr. Samuel Cheng

Tongji University

- Project aims at developing platform to analysis oceanic data, including the detection and recognition of marine life, image denoising and inpainting.
- Developed convolutional neural networks for object retrieval and fine-grained classification.

3D Semantic Scene Completion

March 2017 - June 2017

Graduate Researcher, with Dr. Shengjie Zhao

ESSC Lab, Tongji University

- Project aims at completing the 3D semantic scene from the depth image
- Introduced a post-processing module and aggregated it into an end-to-end network to improve the precision about 6.1% and the Intersection-over-union about 2.3%.
- Redesigned the 3D semantic completion network to fit the requirement of GPU memory.

Traffic Sign Detection in Automatic Driving Scene

October 2016 - November 2016

Graduate Researcher, with Dr. Samuel Cheng

ESSC Lab, Tongji University

- Project aims at detecting traffic sign in the real world scenes.
- Participated in the Datafountain Competition sponsored by UISEE.
- Adopted and improved the convolutional neural networks based detector for the traffic signs detection in the real world scenes. Final rank: 38/393.

Neural-Style Based Style Transfer Platform

September 2016 - October 2016

Graduate Researcher

Tongji University

- Project aims at deploying a web server of neural-style transformer based on deep learning.
- Designed and deployed a neural-style based style transfer platform using a web server to collect and send the pictures to the Tensorflow model in the back end, image resolution up to 2K.

Randomized Algorithm for Matrices and Data

February 2015 - October 2016

Undergraduate Researcher, with Dr. Shengjie Zhao, Dr. Kai Yang

Tongji University

- Project aims at adopting randomized algorithms in other fields where data are usually high dimensional.
- Implemented the randomized algorithm to reduce the dimension of the high dimensional data.
- Proposed a randomized subspace clustering algorithm for face clustering.

Social Network Management System on Mobile Devices

October 2012-October 2014

Shanghai Undergraduate Innovation Project, App Developer, with Dr. Wei Wang *Tongji University*

- Developed an Android app to better manage the messages from several social networks, such as Sina Weibo, Renren and Tencent WBlog.

WORK EXPERIENCE

Algorithm Engineer

May 2018 - Present

Computer Vision Group, Ping An Technology

- Plant Recognition AI: Medicinal Herb Classification Subtask
Implemented a classification model to discern similar herbs with high accuracy and recall.
- Chest X-ray Image Recognition and Diagnose
Developed convolutional neural networks for the classification and detection with medical X-ray images.

Graduate Research Assistant

September 2015 - March 2018

ESSC Lab, Tongji University

- Research on computer vision and big data.

SELECTED HONORS

- Excellent Graduate of Shanghai, China 2018
- The ENN Energy Scholarship, China 2017
- The 13th National Postgraduate Mathematic Contest in Modeling, *third-prize*, China 2016
- The 29th National College Physics Competition (Shanghai), *third-prize*, China 2012
- Provincial Outstanding Students, China (Top 0.2‰) 2011

SKILLS

Programming Languages Libraries

Python, C/C++, MATLAB, Java, SQL, JSP, Shell, Assembly, L^AT_EX
PyTorch, TensorFlow, Keras, Caffe, cuDNN, Marvin