

# Qi Zheng

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## Education

**M.Eng., Information Engineering**, Huazhong University of Science and Technology, 09/2016 - 06/2019

Advisor: Prof. Xinge You

GPA: 90.78, ranking 2/127

**B.Eng., Information Engineering**, Huazhong University of Science and Technology, 09/2012 - 06/2016

Advisor: Prof. Wei Yuan

GPA: 86.92, ranking 6/25 in Advanced Class (top students in EE/CS fields)

## Research Interests

Computer Vision: saliency detection, video captioning

Machine Learning: sparse learning, graph theory

## Research Experience

Deep learning and video captioning 09/2017 - present

- Developed a contrastive learning framework to generate descriptions for videos. The framework aims to consider both the relationship within relevant captions, and the distance between relevant and irrelevant captions for a given video.

Machine learning and salient object detection 09/2016 - 02/2018

- Proposed a compactness measurement for saliency estimation and integrated it into an unsupervised optimization model for saliency detection.
- Proposed a coarse-to-fine algorithm for saliency detection based on low-rank matrix decomposition. The algorithm aims to consider the spatial relationship among the elements within the sparse component derived by decomposition.

Cooperative Spectrum Sensing (CSS) 09/2014 - 11/2015

- Assisted in building a cooperative spectral sensing network for second users to share channels in the absence of primary users.

## Publications

**Qi Zheng**, Shujian Yu, Xinge You, Qinmu Peng, Wei Yuan: Coarse-to-Fine Salient Object Detection with Low-rank Matrix Recovery. Submitted to IEEE Transactions on Multimedia, 2018.

**Qi Zheng**, Peng Zhang, Xinge You: Saliency Detection by Compactness Diffusion. In British Machine Vision Conference (BMVC), 2017.

Zhensheng Jiang, Wei Yuan, Henry Leung, Xinge You, **Qi Zheng**: Coalition formation and spectrum sharing of cooperative spectrum sensing participants. IEEE Trans. Cybernetics, 47(5), 1133-1146 (2017).

## Project Experience

3D facial landmark localization 11/2016 - 03/2017

- Implemented an algorithm with asymmetry patterns and shape regression from incomplete local features.

Queue system simulation, supervised by Associate Prof. Gan Liu 11/2016 - 12/2016

- Implemented a single-sensing pattern and a double-sensing pattern among primary users and secondary users in a wireless sensing system.

3D rigid object tracking, supervised by Associate Prof. Xin Yang 04/2016 - 05/2016

- Implemented a tracking algorithm for 3D rigid object, including keypoints detection, feature matching and 3D modeling.

## Relevant Skills

Programming Languages: Python, Matlab, C

Deep Learning Platforms: Tensorflow, Caffe

English: 616/CET-4 & 605/CET-6

## Awards and Honors

Excellent Graduate, HUST, 2016

National Encouraging Scholarship of China, HUST, 2014

People Scholarship, HUST, 2013, 2015, 2016

## Competitions and Activities

RoboMasters, held by DJI, No.6 Team in Huazhong Area, 05/2015

COMAP (Consortium for Mathematics and Its Applications), Honorable Mention, 02/2015