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. arXiv, 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

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