Tong He

Personal Information

Phone +86-18717134734

Email tong.he@whu.edu.cn

Research Interest **text detection, text recgonition, general object detection, scene classification**

Education

2009–2013 **B.S.**, *Marine Technology*, School of Marine Science and Engineering, Tianjin University of Science and Technology.

2013–2016 **M.S.**, *Photogrammetry and Remote Sensing*, School of Remote Sensing and Information Engineering, Wuhan University.
Supervisor: *Prof. Jian Yao*

2014.10–present **Visiting graduate students**, *Shenzhen Institute Of Advanced Technology Chinese Acadmey Of Sciences(**SIAT**)*.
Supervisor: *Dr. Weilin Hunag* and *Prof. Yu Qiao*

Publication

2015.11 **Tong He** as the first author and abtain start-of-the-art performance on ICDAR2011, ICDAR2013 and MSRA-TD500, submitted to *CVPR*, 2016

2015.6 **Tong He**, Weilin Huang, Yu Qiao and Jian Yao. Text-Attentional Convolutional Neural Networks for Scene Text Detection,arXiv:1506.04395,2015. Submitted to *Image Processing, IEEE Transactions on* **[PDF]**(marginally rejected in ICCV 2015 with scorces of oral/poster, poster and weakly rejection)

2014.8 **Tong He**, Jian Yao, Kao Zhang, Yaolin Hou and Shiyao Han. Accurate Multi-Scale License Plate Localization Via Image Saliency. *The IEEE Conference on Intelligent Transportation Systems (ITSC 2014 oral)*

2015.8 Yuan Liu, Kao Zhang, Jian Yao, **Tong He**, Yahui Liu, and Jinge Tu. An Efficient Method for Text Detection from Indoor Panorama Images Using Extremal Regions. *The IEEE International Conference on Information and Automation (ICIA 2015)*

Projects Experience

- Independently designed interactive *3D Mine Visualization* using *OSG* and *Qt* to help people make decisions and supervise workers' safety.
- Independently mosaicing panoramic image, stitching six images with some overlapped region captured by professional device.

Research Experience

2014.10-present Text detection and recognition

- Improved the recall of traditional MSER-based methods about 6% via low-level saliency features of text
- Designed our own network using multi-task learning structure for charactor classifier combining both label and shape information.
- Explore text recognition method using Long Short Term Memory(**LSTM**) network
- Try to use sequence information for text detection rather than single charactor, which turned out higher F-measure and faster speed.

2014.3-2014.8 Licence plate and face detection

- Learning and improving deformable part model(DPM) for face detection in street view image and achieved satisfactory results.
- Design an energy function and developed licene plate detection system considering symmetrical structure of plates.

Contest and Awards

2015 Image Recognition Task in Large-scale Scene Understanding Challenge (**CVPR2015 work shop**) (2/4)

2014 National Scholarship

2014 The 2nd Prize of National Graduate Contest on Smart-City Technology and Creative Design (2/10)

2013 The First-class Prize of China Undergraduate Mathematical Contest in Modeling

2012 The Second-class Prize of Tianjin Higher Mathematics Competition

Professional Activities

2015.8 Reviewer for *2015 IEEE 18th International Conference on Intelligent Transportation Systems(ITSC)*