Jiaxu Ma

Master, Computer Science

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Education

Shanghai Jiao Tong University Sept. 2016 - 2019 (expected)
Master of Engineering, Computer Science **GPA**: 3.88/4.0
Interests: **Computer Vision and Artificial Intelligence** Advisors: Prof. Cewu Lu

Nanjing University Sept. 2012 - Jun. 2016
Bachelor of Science, Physics **GPA**: 4.5/5.0

Under Review

Fast Surface Defect Detection Using Gabor Filters
Jiaxu Ma, Yuxi Wang, Chen Shi, Cewu Lu
Submitted to the *International Conference on Image Processing* (ICIP) 2018.

Annotation-Free and One-Shot Learning for Instance Segmentation of Homogeneous Object Clusters
Zheng Wu, Ruiheng Chang, **Jiaxu Ma**, Cewu Lu, Chi-Keung Tang
Submitted to the *International Joint Conferences on Artificial Intelligence* (IJCAI) 2018.

Experiences

Defect detection on surfaces of industrial products Aug. 2017 - Feb. 2018
- Improved Gabor filters and some morphological image processing skills
- Designed a defect detection system composed of Gabor filtering, hysteresis thresholding, region grouping and noise removal
- Achieved nearly real-time performance for realistic scratch detection and crack detection

Instance Segmentation of Homogeneous Object Clusters Jan. 2017 - Dec. 2017
- Synthesized clustering images based on the optimization objectives
- Trained a deep learning segmentation model for synthesized images

Accurate parts localization Nov. 2016 - Apr. 2017
- Implemented the well-known Structured Edge Detection Toolbox in c++ code
- Constructed a parts localization system based on object detection(EdgeBoxes), object classification(AlexNet), image matching(SiftFlow) and object tracking(KCF) methods

Predictions on the fluctuation in the stock market Nov. 2015 - Mar. 2016
- Compared several basic models in machine learning, like SVR(Support Vector Regression), NN(Neural Network), HMM(Hidden Markov model), on the stock market data
- Predicted the fluctuation in the stock market using SVR

Honors and Awards

Graduate Student Scholarship, Grand Prize **(Top 30%)** 2016, 2017
Honorable Winner of The Mathematical Contest in Modeling **(Top 25%)** 2014
Industrial Bank Scholarship **(Top 5%)** 2013
Elite Scholarship **(Top 15%)** 2013, 2015

Programming Proficiencies

C / C++, Python, Matlab, LaTeX
OpenCV, TensorFlow, PyTorch, Torch