YIZHE ZHU

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EDUCATION

Rutgers University *January 2015 - present*
PhD in Computer Science
Specialties: Computer Vision, Machine Learning
GPA: 3.91/4.0

University of Missouri *September 2012 - December 2014*
Master of Science in Electronic & Computer Engineering
Specialties: Computer Vision, Image Compression
GPA: 3.63/4.0

Shanghai University *September 2009 - August 2012*
Bachelor of Science in Telecommunications
GPA: 3.47/4.0

RESEARCH EXPERIENCE

Object recognition from noisy text description July 2016 - present

- To propose an effective model that can relate noisy text information of visual categories to corresponding parts in images.
- To design part-based regularization to quell the noise in the text descriptions by eliminating irrelevant text information without requiring part-text correspondence annotation or part annotations at test time.

Background Subtraction for moving camera June 2015 - June 2016

- Used piecewise affine spaces, spectral clustering techniques and label propagation to classify long term trajectories (sparse segmentation).
- Used the labeled trajectories to accurately model long term motion dependencies and a Bayesian filtering framework to reason about pixel level appearance models for foreground and background regions (dense segmentation).

Moving Objects detection and labeling October 2013 - December 2014

- Detected the moving objects in surveillance videos and ascertained the type of the moving objects, such as car, bicycle, and pedestrian, as well as the color of the moving objects.
- Used background subtraction to detect the moving objects, HoG (Histogram of oriented Gradients) combined with LBP (Local binary patterns) as Bag-of-Words features, and linearSVM (Support Vector Machine) as the classifier.
- Designed an algorithm to split the occluded objects to make it more accurate to label the moving objects. The shape context was involved as the descriptor and optimization methods were used to decide the best split.

Gesture recognition May 2014 - September 2014

- Recognize the gesture online shown in the camera, which are classified into 10 categories.
- Used HoG (Histogram of oriented gradients) as features and linearSVM (Support Vector Machine) as the classifier.
- Robust to different background and noise.

Self-control system of Agricultural Greenhouses November 2011 - April 2012

- Used various kinds of sensors to inspect the agricultural environmental factors in order to control the environment in the agricultural greenhouses automatically.
- My major job was to design the periphery circuit of light-strengthen sensor, in order that the sensor can send the correct information/signal to the signal transmitter. And then transmitters send the signal to the receiver.

Simulated Bank System July 2011 - September 2011

- Designed an operating band system including following operation: to deposit and withdraw money, to create and cancel accounts, and to communicate with several ATMs.
- The simulated bank center and ATMs were implemented on individual ARM Developer boards. Using the TCP/IP to implement the communication between Bank Center (with Bank Database) and several ATMs. Multithreading management method is designed to control the communication.

WORK EXPERIENCE

Internship in China Mobile Branch in Zhangjiang, Shanghai June 2012 - August 2012

- The major job is: to assist senior engineers to collect the data of the signal strength, estimate the location and modify the real location of the signal transmitters. The locations should guarantee the signal strength everywhere in the building above a certain threshold.

AWARDS, GRANTS, & HONORS

Excellent student award of Shanghai University	2012
Recognition award from Shanghai Innovation Experiment Program for university students	2012
The First Prize Scholarship	2011-2012
The Second Prize Scholarship	2010
Excellent student award of Luyi, China	2008

COMPUTER SKILLS

Languages:	C/C++, Matlab, Java, Python, R
Software Packages:	OpenCV
Other experiences:	Embedded system, TCP/IP