Peng Lin

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Education

2009.9-2012.3	**Shanghai Jiao Tong University**	**SJTU**

- Institute of Image Processing & Pattern Recognition
Degree: Master of Engineering in Control Theory & Control Engineering
Research fields: Computer Vision & Machine Learning
Advisor: Yuming Zhao & Fuqiao Hu
Thesis: Body Part Recognition Based on Depth Images by Learning
Score (GPA): Overall: 3.3/4.3, Major: 3.5/4.3

2005.9-2009.6	**Shanghai Jiao Tong University**	**SJTU**

- School of Electronic, Information and Electrical Engineering (SEIEE)
Degree: Bachelor of Engineering in Automation
Thesis: The Analysis and Design of Transfer Function in the Three-Dimensional Volume Rendering
Score (GPA): Overall: 3.4/4.3, Major: 3.5/4.3

Work Experience

2012.4-present	**Software Engineer at Marvell Technology Group Ltd.**	Shanghai, China
	Focus: Image Processing & Camera Calibration for mobile camera	
2011.5-2011.11	**Software Intern at Intel Corporation Ltd.**	Shanghai, China
	Focus: System Administrator (Linux & Windows servers on Xen)	
2010.7-2010.10	**Software Intern at Omron Corporation Ltd.**	Shanghai, China
	Focus: Designer for Omron's exhibition at World Expo 2010 Shanghai	

Publications

- **Peng Lin**, Chao Zhang, Zhuliang Li, Yuming Zhao, Human Body Part Recognition Based on Depth Image Learning[J], Computer Engineering, Vol.38 (16), pp.185-188, 2012, DOI: 10.3969/j.issn.1000-3428.2012.16.048. (In Chinese) [PDF]

- Ling Cai, **Peng Lin**, Yuming Zhao, Chenghua Wang, Texture Image Segmentation by Active Bayesian Contour, International Conference on System Design and Data Processing (ICSDDP), Taiyuan, Shanxi, pp.357-360, 2011.2. [PDF]

Research & Projects

2011.03-2012.03	**Human body part recognition**: *Master's project at* SJTU. The motivation of this project was to do fast segmentation and human body classification by random forest. I investigated and implemented a human body part recognition algorithm, by exploiting the techniques of depth imaging and ensemble learning. Compared with other geometry based methods, the algorithm used less locality information but gained a real time classification. (Advisor: Yuming Zhao)
2014.04-present	**Color non-uniformity correction**: *Current project.* The Color Non-Uniformity (Shading) Correction is an intractable problem in mobile camera. I am researching and designing a vectorization based method, which compresses features from massive white charts and searches the best fitting curve to minimize entropy. To embedded systems, I am building up a minimal matrix library with numerical stability and accuracy. Sample code: Numic, (ref: Matrix Computations 4th)
2013.07-2014.03	**Camera calibration & tuning**: I tuned a hundred of parameters for the algorithms to reach best image quality. I was researching Color Science and building up standard workflows of tests. The tests could attribute to the algorithms, which caused the defect, like whether sharpening or de-noise caused texture loss.

2012.10-2013.06	**Algorithms on image processor**: This was a prospective study aimed to test the Image Processor's parallel capability in complex algorithms. I implemented parallel algorithms in Python, which included format conversion, image filtering, feature extraction and texture processing.
2012.07-2012.09	**Panorama optimization**: The hotspot was in mosaic and pyramid blending. I searched and employed the linear interpolation to replace default non-linear functions, combined with LUT and fixed point computing. On 1GHz CPUs, the time cost was reduced from 20s to 10s per frame.

Selected Courses

Master	Pattern Recognition (A), Artificial Neural Network (A), Principle and System of Intelligence (A-)
Bachelor	Signals and Systems (A-), Mathematical Analysis II (A-), Discrete Mathematics (A), Physics I (A-)
Online	Machine Learning, Coursera 2014, (record); Computational Photography, Coursera 2013, (record); SICP, MIT OCW 2013-present

Honors & Awards

2011-2012	Graduate Fellowship	SJTU
2008-2009	National Encouragement Scholarship	MoE, China
2007-2008	Scholarship of Rockwell	Rockwell
	- rewarding 3/108 students' major GPA in junior year	
2006-2007	Merit Student of the Year	SJTU
	- 1 each class (1/29), for the overall performance of the year	
2006-2007	Academic Excellence Scholarship, Third Class	SJTU
2003-2004	First Prize in National Mathematical Olympiad Competition	CMS, China
	- one of top 30 high school students at all grade levels in my province	
	- offered admission to SJTU waived of National Matriculation Examination 2005	

Tests

2014.07.06	TOEFL 94
2014.11.01	GRE V150, Q170, AW3.0

Teaching Experience

2009.09-2011.06	Undergraduate Class Teacher. I had served and managed a class of 27 students for two years.
2010.09-2011.01	Teaching Assistantship. Course AU311: Introductory Pattern Recognition, School of Electronic, Information and Electrical Engineering (SEIEE), Shanghai Jiao Tong University, Fall, 2010.

Technical Skills

Programming languages	C, Python, Octave/Matlab, C++, Lisp, Java, C# with practical experience.
Favorite Tools & Libraries	Linux, Emacs (Org mode), Vi, GCC, Bash, Git, Html, CSS, JSON, Xml (libxml2), OpenCV, OpenGL (freeglut), LaTeX,
Specialized Knowledge	Fundamental Machine Learning & Image Processing Algorithms, Random Forest, Neural Network, PCA, Depth Imaging, Image Segmentation, Object Tracking, Image Quality, Color Imaging Science, Embedded System