Peng Lin

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Education

2015.8-present **Washington State University** **WSU**
PhD student in Computer Science
Advisor: Yinghui Wu
Research fields: Big Data, Graph Data, Data Mining
Current project: graph association rule mining and applications

2009.9-2012.3 **Shanghai Jiao Tong University** **SJTU**
Master of Science in Control Science and Engineering
Advisor: Yuming Zhao & Fuqiao Hu
Research fields: Computer Vision & Machine Learning
Thesis: body part recognition based on depth images by learning

2005.9-2009.6 **Shanghai Jiao Tong University** **SJTU**
Bachelor of Science in Automation
Thesis: the analysis and design of transfer function in 3d volume rendering

Research & Projects

2015.11-present **Graph Association Rule Mining and Applications**: *Current Project at* WSU. The project is to study association rule mining and its applications. One application is temporal **event detection**, which is to analyze the significant patterns over temporal graph data. The work is based on efficient and effective graph matching and mining algorithms, and it extends static graph mining to predict the interesting patterns over temporal graphs. The initial work was built on Spark/GraphX. Another application is **knowledge graph quality and cleaning**. Association rules can be applied as error detection rules and data cleaning rules over large-scale knowledge graphs. We are developing (distributed) quality rule mining, error detection and data cleaning techniques using association rules.

2014.04-2015.07 **Color non-uniformity correction**: *Research Project at* Marvell. I researched and designed a color correction method, which used PCA to compress massive features and then optimized to the minimal entropy. See draft: PDF. Also, in order to run algorithms on embedded systems with limited resources, I built a standalone matrix library with numerical stability for embedded systems. See code

2011.03-2012.03 **Human body part recognition**: *Master's project at* SJTU. The motivation of this project was to do fast recognition. I investigated and implemented a human body part recognition algorithm, by the techniques of depth imaging and ensemble learning. Compared with geometry based methods, the algorithm used less context but gained real time performance.

Work Experience

2012.4-2015.07 **Software Engineer at Marvell Technology Group Ltd.** Shanghai, China
Focus: design algorithms for mobile phone camera

2011.5-2011.11 **Software Intern at Intel Corporation Ltd.** Shanghai, China
Focus: system administrator on Xen servers

2010.7-2010.10 **Software Intern at Omron Corporation Ltd.** Shanghai, China
Focus: designer of Omron's exhibition at World Expo 2010 Shanghai

Technical Skills

Programming Languages	C/C++, Java, Scala, Python, Lisp, C#, R, Matlab/Octave with practical experience.
Proficient Tools & Libraries	Apache/Spark, Weka, Linux, GCC, Bash, Git, Html/CSS, JSON, Xml (libxml2), OpenCV, OpenGL (freeglut), LaTeX
Specialized Knowledge	Database and Data mining, Machine Learning, Computer Vision, Numerical Computing, Functional Programming, Optics & Color Science, Embedded System

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]

Honors & Awards

2011-2012	Graduate Fellowship	SJTU
2008-2009	National Encouragement Scholarship	MoE, China
2007-2008	Scholarship of Rockwell (top 3/108)	Rockwell
2006-2007	Merit Student of the Year (top 1/29)	SJTU
2006-2008	Academic Excellence Scholarship	SJTU
2003-2004	First Prize in National Mathematical Olympiad Competition	CMS, China

Teaching Experience

Spring 2016 WSU	TA, CptS 360: Systems Programming
Fall 2015, WSU	TA, CptS 355: Programming Language Design
Fall 2010, SJTU	TA, AU 311: Pattern Recognition
2009-2011, SJTU	Instructor, a class of 27 undergraduate students

Selected Courses

WSU	Machine Learning, Advanced Database, Algorithmics, Big Data, Data Science
SJTU	Artificial Intelligence, Pattern Recognition, Artificial Neural Network
	Mathematical Analysis, Discrete Mathematics, Data Structure and Algorithms