

YI XU

504 Dencary Lane, Apt. F, Endwell, NY 13760

(607) 242-5029 • yxu4@binghamton.edu • <http://cs.binghamton.edu/~yxu/>

EDUCATION

- Binghamton University, State University of New York, Watson School of Engineering** Binghamton, NY, U.S.A.
Doctor of Philosophy in Computer Science, Cumulative GPA: 3.8/4 Expected May 2014
- Zhejiang University** Hangzhou, China
MEng in Information and Communication Engineering, Cumulative GPA:3.41/4 Sep. 2004 - June 2006
- Huazhong University of Science and Technology** Wuhan, China
BEng in Electronic and Information Engineering, Cumulative GPA 3.93/4, Rank 6/502 Sep. 2000 - June 2004
- Minor in English*

PROFESSIONAL EXPERIENCE

Binghamton University, Department of Computer Science, Binghamton, NY 2008 - present
Research assistant

- National science foundation supported project of pattern change detection between high-dimensional data sets.
 - Designed and implemented a novel algorithm in Matlab. Code/demo are available on homepage.
 - Can be used for detecting new patterns from time evolutionary data, detecting new topics from news streams, and detecting abnormal events from video streams, etc.
 - Quantitative evaluations showed higher detection accuracy than the state-of-the-art methods.
 - Patent pending.
- NSF supported project of convex mixture models inference.
 - Designed and implemented a novel algorithm in Matlab and C++ . Code is available on homepage.
 - Can be used for clustering and network partitioning.
 - Reduced the clustering MSE (mean square error) by 30% on average; over 1,000 times faster in comparison with the current non-convex EM and variational Bayesian methods.
- NSF supported project of network partitioning based on homogeneity
 - Designed and implemented two novel algorithms in Matlab.
 - Can be used for pattern recognition from sensor network, community detection from networks with associated attributes, etc.
 - Quantitative evaluations justified the effectiveness of the algorithm in comparison with state-of-the-art algorithms.

Hikvision Digital Tech. Co., Ltd, Hangzhou, China 2006 - 2007

Software engineer

- SDK (software development kit) development for H.264/MPEG4 Codec.
 - Designed and implemented the video frame delivery APIs using C.
 - Implemented a double-frame player using Virtual C++ under win32.

Zhejiang University, Department of Information and Communication Engineering, Hangzhou, China 2005 - 2006

Research assistant

- China space foundation supported project of vehicle speed detection using parallel monitoring cameras
 - Designed and implemented the vehicle plate detection algorithm using C.
 - Gave a precision of 95% and a recall close to 100%.
 - Real-time detection from 720×480 video stream.

PUBLICATIONS

- Yi Xu and Zhongfei Zhang, “Pattern change discovery between high dimensional data sets”, *SUNY-RB-405-102412, patent pending*, 2012.
- Yi Xu, Zhongfei Zhang, Philip Yu and Bo Long, “Pattern change discovery between high dimensional data sets”, *Proceeding CIKM*, 2011.
- Yi Xu and Huimin Yu “Contour-based multi-source information fusion for motion segmentation”, *Chinese Journal of Electronics*, Vo.3, pp. 464-470, 2008.
- Huimin Yu, Yi Xu, Jizhong Liu and Xiaoying Gao “ Multiple motion segmentation and tracking with level-set PDEs”, *Journal of Image and Graphics*, Vol.12(7), pp. 1218-1223, 2007.
- Yi Xu and Huimin Yu, “Contour-based motion segmentation using few priors”, *Proceeding ICSP*, 2006.

SKILLS

- Proficiency in software development in C++, C, Matlab and \LaTeX
- Familiarity with java, Linux shell scripting, and html.
- Familiarity with UNIX, GNU/Linux, Win32.

HONORS AND AWARDS

- NSF Supported Research Foundation Scholarship, Binghamton, 2008-2013
- Scholarship for Outstanding Academic Achievement, Huazhong University of Science and Technology, Wuhan, 2000-2004
- Certificate of Excellence for Outstanding Academic Achievement, Huazhong University of Science and Technology, Wuhan, 2003

REFEREES

Available on request