Zhong Zhang

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Career Objective:

Looking for an internship and full-time position as a software developer/engineer.

Summary:

- 7 published papers in journals and conferences.
- Three years in the Ph.D. program, doing research in gesture and action recognition, hand detection and machine learning.
- Excellent programming skills in C++ , C, Java and Matlab.
- Strong background in machine learning, including Adaboost, SVM, Hidden Markov Model, Bayesian Network, Conditional Random Field etc.
- Strong background in computer vision, including SIFT, Canny edge, LBP descriptor, HOG descriptor etc.

Education/Academic Background:

University of Texas at Arlington, USA: **2009-2013 (expected)**
Ph.D. in Computer Science, GPA: 3.89/4.0

Wuhan University, China **2007-2009**
Masters in Computer Science, GPA: 3.5/4.0

Chongqing University, China **2003-2007**
Bachelors in Computer Science, GPA: 78/100

Technical Skills:

Programming Languages	C, C++, Matlab, Java, C#, Python
Tools	Visual Studio, Matlab, Cygwin
SDK	OpenCV, MS Kinect SDK, OpenNI
Database	MySQL
Web Development:	HTML

Publications:

Zhong Zhang, Weihua Liu, Vangelis Metsis, and Vassilis Athitsos. Fall Detection Using a Single Depth Camera and Automatic External Calibration. (journal paper, in preparation)

Zhong Zhang, Weihua Liu, Vangelis Metsis, and Vassilis Athitsos. A Viewpoint-Independent Statistical Method for Fall Detection. ICPR 2012, November 2012.

Zhong Zhang, Rommel Alonzo, Vassilis Athitsos. **Experiments with computer vision methods for hand detection.** Conference on Pervasive Technologies Related to Assistive Environments (PETRA), May 2011.

Jianhui Zhao, **Zhong Zhang**, Shizhong Han, Chengzhang Qu, Zhi-Yong Yuan, Dengyi Zhang. **SVM based forest fire detection using static and dynamic features.** Computer Science and Information Systems, Vol. 8, No. 3, 821-841. (2011)

Zhong Zhang, Eric Becker, Roman Arora, Vassilis Athitsos. **Experiments with computer vision methods for fall detection.** Conference on Pervasive Technologies Related to Assistive Environments (PETRA), June 2010.

Dengyi Zhang, Chengzhang Qu, Jianhui Zhao, **Zhong Zhang**, Youwang Ke, Shizhong Han, Mingqi Qiao, Huiyun Zhang, **Extraction and Parameterization of Eye Contour from Monkey Face in Monocular Image**, Lecture Notes in Electrical Engineering, Vol. 56, 2009, Page(s): 182-189

Zhong Zhang, Jianhui Zhao, Dengyi Zhang, Chengzhang Qu, Youwang Ke, Bo Cai. **Contour Based Forest Fire Detection Using FFT and Wavelet**. CSSE(1) 2008:760-763.

Dengyi Zhang, Shizhong Han, Jianhui Zhao, **Zhong Zhang**, Chengzhang Qu, Youwang Ke, Xiang Chen: **Image Based Forest Fire Detection Using Dynamic Characteristics with Artificial Neural Networks**: JCAI2009:290-293.

Research Projects:

American Sign Language (ASL) Dictionary Search Project (NSF Funding):
Designed and implemented a system that lets users search dictionaries of ASL that would help look up the meaning of unknown signs. The system uses several algorithms for feature extraction, dynamic space time warping, large-scale multiclass recognition and classification. The system GUI supports video segmentation, annotation and analysis for video data preprocessing.

Hand Detection System (NFS Funding):
Designed and implemented a system that localizes hands in videos automatically for gesture and sign language recognition. The system uses several algorithms for feature extraction including temporal motion, skin color, gradient norms and motion residue. The system GUI supports annotation and analysis for video data preprocessing.

Fall Detection System (NSF Funding):

Designed and implemented a system that detects human falls in videos automatically. A natural application of such a system is in home monitoring of patients and elderly persons. The system uses several algorithms for feature extraction and calibration. And a native Bayesian classifier is employed to classify falls and non-falls.

Face Detection System:
Designed and implemented face detection system using rectangle features and AdaBoost learning algorithm which can be used in conjunction with many other learning algorithms to improve their performance.

Forest Fire Detection System:
Designed and implemented a fire monitoring system that can help prevent forest fire effectively by detecting fire in videos. 11 static and 12 dynamic features feed to a classifier trained by SVM algorithm to classify whether there is fire or not in the current frame of a video. The core algorithm is 10,000 lines c++ code.