Maozheng Zhao

Computer Vision & Machine Learning

Email: maozhengzhao@bupt.edu.cn
Mobile Phone: +86 189-1035-7962
Website: http://maozhengzhao.github.io/UCLA

Education Background

M.S. (expected Mar. 2016), Information and Communication Engineering,
Beijing University of Posts and Telecommunications (BUPT) (China), 2013 – present

- Research Area: Computer Vision, No-reference Image/Video Quality Assessment
- Recipient of National Scholarship for Graduate Students (2.5%), 2015
  Highest Honor for Graduate Student in BUPT.
- GPA: 84.3/100, Ranking: 5/62

B.S. in Electronic and Information Engineering,
Harbin Engineering University (China), 2009 –2013

- Recipient of First-class Scholarship for Outstanding Students (5%), 2010, 2011,2012
- GPA: 89.53/100, Ranking: 3/122

Publications

[1] **Maozheng Zhao**, Qin Tu, Yanping Lu, et al. "No-reference image quality assessment based on phase congruency and spectral entropy." *Picture Coding Symposium (PCS)*, 2015. (**Oral**)
[2] **Maozheng Zhao**, Ran Gao, Aidong Men, et al. "Opinion-unaware blind image quality assessment based on sparse representation." *International Symposium on Wireless Personal Multimedia Communications (WPMC)*, 2015.
[3] **Maozheng Zhao**, Yanping Lu, Cuiwei Li, et al. "Blind image quality assessment based on phase congruency and spatial-spectral entropy." *International Symposium on Wireless Personal Multimedia Communications (WPMC)*, 2015.
[4] Linlin Mu, **Maozheng Zhao**, Chaozhu Zhang. "Quantum particle swarm optimisation based on chaotic mutation for automatic parameters determination of pulse coupled neural network." *International Journal of Computing Science and Mathematics*, v 4, n 4, p 354-362, 2013.
[5] Yanping Lu, Qin Tu, **Maozheng Zhao**, et al. "Gradient magnitude similarity for tone-mapped image quality assessment." *Visual Communication and Image Processing Conference (VCIP)*, 2015.
[6] Cuiwei Li, Qin Tu, **Maozheng Zhao**, et al. "A multi-scale compressed video saliency detection model based on ant colony optimization." *IEEE/CIC International Conference on Communications in China (IEEE/CIC ICCC)*, 2015.

Patents Pending

[1] **Maozheng Zhao**, Xu Bai, Jingjing Ren. "No-reference image quality assessment based on phase congruency and spectral entropy." Chinese Patent Pending, Publication Patent Number CN104835172A, filed May 2015.
[2] Hongyuan Gao, **Maozheng Zhao**, Yan Sun, et al. "Automatic image segmentation method of continuous quantum goose group algorithm evolution pulse coupling neural network system parameters." Chinese Patent, Publication Patent Number CN103824291A, filed Feb 2014.

Research Projects

BUPT, Aidong Men Aug 2014 –Jun 2015
No-reference Image/Video quality assessment

- Realized more than 10 latest image/video quality assessment algorithms.
- Utilizing probability distribution models, unsupervised feature learning, SVM, sparse representation, neural networks, natural scene statistics features, CNN, etc. to image / video quality assessment.
- Published 3 international conference papers and filed 1 patent as the first author.

BUPT, Bo Yang Sep 2013 –May 2014
Screen printed touch panel circuit inspection by machine vision

- Designed and realized a no-reference method to automatically locate open circuit and short circuit on digital images of the circuits by Python, OpenCV and Qt GUI.

The open circuit and short circuit were located based on the thinned images.
- Realized automatic determination of most-frequent width of circuits by thinning, distance transformation and frequencies of different widths.
- Leader of the team with 4 students for the last 3 months of the project.

BUPT, Jinchun Gao Mar 2014- Jun 2014

Survey of multi-label image annotation
- Retrieved and read most cited papers and latest papers on the topic of multi-label image annotation.
- Wrote a survey on that topic as the term paper for the course of Science & Technology Information Retrieval. The paper was ranked 3rd in the class of 50 students.

Harbin Engineering University, Hongyuan Gao Feb 2013 – Jun 2013

Automatic image segmentation based on pulse coupling neural network and swarm intelligence optimization.
- Utilizing swarm intelligence optimization to determine the parameters of pulse coupling neural network which automatically segments images.
- Realized 5 different swarm intelligence optimization algorithms
- Proposed 2 new hybrid swarm intelligence optimization algorithms.
- Published 1 journal paper and filed 1 patent as the second author.

Honors and Awards
- National Scholarship for Graduate Students (2.5%), 2015.
- Excellent Graduate Student of BUPT (5%), 2014.
- First-class Scholarship for Outstanding Students in Harbin Engineering University (5%), 2010, 2011, 2012.
- 2nd Prize, TI Cup National Undergraduate Electronic Design Contest in Heilongjiang Provence, 2012.
- Merit student of Harbin Engineering University (3%), 2012.
- Special Award for Major Course Learning (1/122), 2012.
- Outstanding Student Leader Awards, 2010.

Teaching Experience

BUPT, Teaching Assistant Summer 2014, 2015

Course: Introduction to Video Quality Assessment (during summer school)
- Prepared courseware, designed homework and answers with MATLAB and FFmpeg, lectured separately to 6 different classes, each of which has about 30 students.

BUPT, Teaching Assistant Spring 2014

Course: Digital Signal Processing
- Graded homework weekly, assisted students during office hours, invigilated the mid-term and final exam.
- Lectured a one-hour course explaining answers for important homework problems.

Relevant Courses
- The Foundation of Computer
- Object-oriented Technology and C++ Program
- Principle of Microcomputer & Interface Technique
- Probability Theory & Mathematical Statistics
- C Language Programming Design
- Matrix Theory and Methods
- Pattern Recognition
- Digital Image Processing

Technical Skills

Programming: Matlab, Python, C/C++, OpenCV, Verilog HDL, Keil
Language: Fluent English (TOEFL 102, GRE 322), Native Chinese
Documentation: LATEX, HTML, MS Office

Membership & Service

Member of the graduate student union of BUPT
Commissary in charge of organization of my class (undergraduate)
IEEE student member
Member of badminton club in BUPT