

ZHEYUN FENG

+1 (517)-580-9065 ◇ fengzheyun@gmail.com ◇ <http://www.cse.msu.edu/~fengzhey>

57 Middlevale Rd Apt 1448A, East Lansing, MI, 48823

SUMMARY

With six years of research experience in **Machine Learning, Data Mining/Analysis, Statistical Modeling** and **Information Retrieval**. With publications on top conferences (ICCV and ECCV).

Interested in full-time researcher or engineer positions in relevant areas starting from September.

EDUCATION

Ph.D. Computer Science

Aug.2011-Aug.2015(Expected)

Michigan State University, East Lansing, MI, USA.

Thesis: *Large Scale Image Annotation and Noisy Tag Recovery*.

Adviser: Prof. Rong Jin. GPA: 3.875

M.E. (Ingénieur) Signal and Image Processing

Sep.2009-Jul.2011

Telecom ParisTech (École Nationale Supérieure des Télécommunications), Paris, France.

Awarded with Eiffel Excellence Scholarship, the highest honor for international students.

B.S. Electrical Science and Engineering

Sep.2005-Jun.2009

Nanjing University, Nanjing, China.

Graduated with Honors. *Major GPA: 91/100, ranked 3 out of 89.*

EMPLOYMENT EXPERIENCES

Research Assistant

Aug. 2011 - present

LINKS Lab, Dept. of CSE, Michigan State University

East Lansing, MI

Research Internship

May 2013 - Aug. 2013, May 2014 - Aug. 2014

Video Content Analysis Group, Comcast Labs DC

Washington, DC

Research Internship

Jul. 2010 - Jan. 2011

New Initiatives Lab, Cisco (NDS) FRANCE. Was granted first degree premium.

Paris, France.

SELECTED RESEARCH PROJECTS

Multi-label Classification and Noisy Tag/Label Recovery

2012 - present

- Developed an *efficient kernel metric learning* algorithm to capture feature similarity.
- Developed an *efficient robust matrix completion* algorithm to recover missing and remove noisy tags(labels).
- Improved efficiency by approximating kernels and solving convex optimization problem.
- Provided theoretical guarantees with statistical error bounds.
- Accuracy improved 5% by comparing with state-of-the-art image tagging algorithms.
- Algorithms were applicable to document/image/audio/video tagging and multi-label classification.

Multimedia Data Processing and Content Analysis

2010, 2013, 2014

Industrial intern projects in Comcast Labs DC and Cisco (NDS) France

- Developed an online application to detect and recognize commercials (advertisements) in TV Programs.
- Video(image, audio and subtitle) decoding/processing, feature extraction and synchronization.
- Accomplished text, logo, time/score ticker, face detection and recognition.
- Applied semi-supervised ensemble classification to identify the commercials.
- Achieved precision 98.6%, recall 98.4% on 102 videos, 20% higher than commercial tool Comskip.

Large-scale Document Retrieval and Query Expansion

05/2012 - 09/2012

- Improved retrieval performance by improving similarity scoring and applying query expansion.

Data classification and clustering

10/2012 - 04/2015

- Developed an effective algorithm to analyze the customer data and predict the business risk.
- Proposed a fast stochastic gradient descent method to solve high dimensional classification problem.
- Developed an ensemble classifier to classify 1K Synsets of ImageNet images, with accuracy of 91%.
- Developed a genetic algorithm to cluster large-scale high dimensional data from UCI datasets.

Large-scale Information Search in High Dimensional Space

10/2011 - 05/2012

- Converted a high dimensional search to a sequence of one dimensional search with random projection.
- Derived an efficient kernel based vector representation for images to promote the computation.

Image Processing and Analysis

2008, 2009 - 2011

- Performed cardiac MRI alignment with tagging lines, and reconstructed 3D cardiac deformation model.
- Segmented cytological/histological images, clustered and detected cancer cellular or abnormal tissue.
- Transferred color between photos, and corrected rendering color in certain clusters.
- Developed a fingerprint recognition system, with image processing, enhancement and matching skills.

SELECTED PUBLICATIONS

- **Zheyun Feng**, Rong Jin and Anil K. Jain. *Large-scale Image Annotation by Efficient and Robust Kernel Metric Learning*. In International Conference of Computer Vision (ICCV), pp. 1609-1616, 2013.
- **Zheyun Feng**, Songhe Feng, Rong Jin and Anil K. Jain. *Image Tag Completion by Noisy Matrix Recovery* In European Conference of Computer Vision (ECCV), pp. 424-438, 2014.
- Songhe Feng, **Zheyun Feng**, and Rong Jin. *Learning to Rank Image Tags with Limited Training Examples* In IEEE Transactions on Image Processing, Vol. 24, NO. 4, April 2015.
- **Zheyun Feng**, Rong Jin and Anil K. Jain. *Large-scale Image Tagging based on Noisy Matrix Completion* (Preprint) Ready to submit to IEEE Transactions on Pattern Analysis and Machine Intelligence.

ACTIVITIES

Paper Reviewer	AAAI 2015
Teaching Assistant	CSE484 Information Retrieval, Fall 2013, MSU
Google Code Jam 2014	Full score 90/90 in Qualification round, ranked 1,613 out of 30K

TECHNICAL STRENGTHS

Computer Languages	C/C++ (10 years), Java (5 years), Matlab (8 years), Python (2 years), Scala, Octave, Perl, R, MySQL, Javascript, HTML, Assembly Language
Tools & Protocols	scikit-learn, OpenCV, Lucene, FFMPEG, XML, JSON, OpenGL, Weka, Hadoop, MapReduce, Spark, HPCC, GitHub, SVN, Kate, Emacs, Vim
Languages	English, Chinese, French

SELECTED GRADUATE COURSES

▷ Machine Learning	▷ Design & Theory of Algorithms
▷ Pattern Recognition & Analysis	▷ Signal and Audio Processing
▷ Computer Vision	▷ Image Analysis and Reasoning
▷ Data Mining	▷ Probability
▷ Natural Language Processing and Interaction	▷ Evolutionary Computation
▷ Multimedia Indexing and Retrieval	▷ Advanced Computer Graphics