

Rong Yan

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RESEARCH INTERESTS

Digital and social media analysis, information retrieval, large-scale machine learning, computer vision, text mining, human-computer interaction, and distributed system

EDUCATION

- **Carnegie Mellon University**, Pittsburgh, PA, Oct. 2006
Ph.D. in Language and Information Technologies, School of Computer Science
Dissertation: Probabilistic Models for Combining Diverse Knowledge Sources in Multimedia Retrieval
- **Carnegie Mellon University**, Pittsburgh, PA, May 2004
M.S. in Language and Information Technologies, School of Computer Science
- **Tsinghua University**, Beijing, P. R. China, Jun. 2001
B. E. in Computer Science and Technology

PROFESSIONAL EXPERIENCE

- **Facebook**, Mountain View, CA
Research Scientist (Nov. 2009 – Present)
- **IBM TJ Watson Research Center**, Hawthorne, NY
Research Staff Member (Nov. 2006 – Nov. 2009)
- **Carnegie Mellon University**, Pittsburgh, PA
Graduate Student, Language Technologies Institute (Sep. 2001 – Oct. 2006)
Research Assistant, Informedia project (Apr. 2002 – Oct. 2006)
Research Assistant, Phoenix project (Sep. 2001 – Apr. 2002)
- **IBM TJ Watson Research Center**,
Intern Student (May 2004 – Aug. 2004)
- **Tsinghua University**, China
Research Assistant, High Performance Computing (Jun. 2000 – Jun. 2001)
- **Microsoft Research Asia**, China
Visiting Student, Speech Technologies Group (Apr. 2000 – Feb. 2001)

AWARDS & FELLOWSHIPS

- People's Choice Award for Best Video Search System, The 2nd ACM Video Olympics, co-located with ACM International Conference on Image and Video Retrieval, Jul. 2008
- IBM Research External Recognition Award, Nov. 2007
- IBM First Patent Plateau Award, Nov. 2007
- Carnegie Mellon Research Fellowship, Aug. 2001 – Nov. 2006
- Finalist for IBM Research Fellowship (2% of all the nominees), Feb. 2005
- Best paper runner-up in ACM International Conference on Image and Video Retrieval (oral paper acceptance rate 11%, and only 1% of the submitted papers are selected for the award), Oct. 2007
- Best paper runner-up in ACM Multimedia (the most prestigious conference in the Multimedia area, and only 1% of the submitted papers are selected for the award), Oct. 2004
- Invited panelist, Emerging Leader in Multimedia seminar in IBM T.J. Watson Research Center (one of the eight students selected from US), Aug. 2005
- Member of IBM Multimedia Analysis and Retrieval project, which wins Wall Street Journal Innovation Award in the Multimedia category (awarded by Wall Street Journal for technological breakthroughs), 2004
- Member of CMU Informedia project, which wins Newell Award for Research Excellence, Carnegie Mellon University (annually awarded by School of Computer Science for research excellence, 1 project awarded per year), 2003
- Tsinghua First Class Scholarship for outstanding undergraduate students in the year 1999-2000 (top 2% undergraduate students), Nov. 2000
- Tsinghua-JinLing Scholarship for National Mathematical Modeling Contest (awarded for excellent performance in the contest), Dec.1999
- Tsinghua-Kodak Scholarship for the outstanding undergraduate students (top 5% undergraduate students), Nov.1999
- Tsinghua-ESS Scholarship for the outstanding undergraduate students (top 5% undergraduate students), Nov.1998

PROFESSIONAL SERVICES

Grant and Proposal Reviews

- NSF Intelligent & Information Systems (IIS), 2010
- NSF Intelligent & Information Systems (IIS), 2009
- NSF CAREER Proposal
- Hong Kong Research Council Reviewer, 2009 – present
- Nanyang Technology University Grant Reviewer, 2008 – 2009
- Wiley publisher , Book proposal reviewer, 2007

Editorial Boards

- Associate Editor, IEEE Multimedia Magazine, Nov. 2010 – present
- Guest Editor, IEEE Multimedia, special issue on “Large-Scale Multimedia Corpus, Retrieval and Mining”, Jan. 2011 – Mar. 2011

Conference / Workshop Chairs

- Chair, Application Track (out of 4 Program Tracks), ACM Multimedia, 2013
- Co-Chair, Workshop on “Machine Learning for Social Computing”, Neural Information Processing System (NIPS), 2010
- Co-Chair, Workshop on “Analysis and Evaluation of Large-Scale Multimedia Collections”, Intl. Conf. on Pattern Recognition (ICPR), 2010
- Co-Chair, Workshop on “High Performance Analytics - Algorithms, Implementations, and Applications”, SIAM Data Mining (SDM), 2010
- Co-Chair, Workshop on “Large-scale Multimedia Retrieval and Mining”, ACM Multimedia, 2009
- Co-Chair, Special Session on “Knowledge Discovery over Community-Sharing Media – from Signal to Intelligence”, ICME, 2009
- Publication Co-Chair, IEEE Intl. Conf. on Multimedia & Expo (ICME), 2009
- Co-Chair, Best paper award, International Symposium on Multimedia, 2009
- Co-Chair, Industrial program, International Symposium on Multimedia, 2008
- Co-Chair, Special session on “Closing the semantic gap: concept-based multimedia mining / retrieval”, IEEE Intl. Conf. on Semantic Computing 2007

Conference / Workshop Committee Members

- Program Committee Member, Intl. Conf. on Machine Learning (ICML), 2001
- Program Committee Member, Intl. Conf. on World Wide Web (WWW), 2011
- Program Committee Member, Intl. Conf. on Computer Vision and Pattern Recognition (CVPR), 2011
- Program Committee Member, Intl. Conf. on Computer Vision and Pattern Recognition (ICCV), 2011
- Program Committee Member, Intl. Conf. on Intelligent User Interface, 2011
- Program Committee Member, ACM Multimedia, 2010
- Program Committee Member, Workshop on Multi-Labeled Data, Intl. Conf. on Machine Learning, (ICML-MLD), 2010
- Program Committee Member, Intl. Conf. on Pattern Recognition (ICPR), 2010
- Program Committee Member, Intl. Conf. on World Wide Web (WWW), 2010
- Program Committee Member, AAAI Conf. on Artificial Intelligence, 2010
- Program Committee Member, Intl. ACM SIGIR Conf. (SIGIR), 2010
- Program committee member for International Conference on Semantic Computing (ICSC), 2010
- Program Committee Member, ACM Conf. on Image & Video Retrieval, 2010
- Program Committee Member, Intl. Conf. on Information and Knowledge Management (CIKM), 2010
- Program Committee Member for ACM Multimedia, 2009
- Program Committee Member, Intl. ACM SIGIR Conf. (SIGIR), 2009
- Program Committee Member, Intl. Conf. on Semantic Computing, 2009
- Program Committee Member, IEEE Intl. Conf. on Multimedia and Expo, 2009
- Program Committee Member, ACM Conf. on Image & Video Retrieval, 2009
- Program Committee Member, Intl. Conf. on Information and Knowledge Management (CIKM), 2009

- Review Committee, IEEE Intl. Conf. on Acoustic, Speech and Signal Processing (ICASSP), 2009
- Review Committee, Intl. ACM SIGCHI Conference (SIGCHI), 2009
- Program Committee Member, Intl. ACM SIGIR Conf. (SIGIR), 2008
- Program Committee Member, ACM Conf. on Image & Video Retrieval, 2008
- Program Committee Member, Intl. Conf. on Information and Knowledge Management (CIKM), 2008
- Program Committee Member, IEEE Intl. Conf. on Multimedia and Expo, 2008
- Review Committee, Intl. ACM SIGCHI Conference (SIGCHI), 2008
- Program Committee Member, Intl. ACM SIGIR Conf. (SIGIR), 2007
- Program Committee Member, ACM Conf. on Image & Video Retrieval, 2007
- Program Committee Member, IEEE Intl. Conf. on Multimedia and Expo, 2007
- Program Committee Member, European Conf. on Information Retrieval, 2007
- Program Committee Member, IEEE Intl. Conf. on Multimedia and Expo, 2006

Journal Reviewers

- ACM Computing Surveys
- IEEE Trans. on Pattern Analysis and Machine Intelligence (PAMI)
- IEEE Trans. on Neural Network (TNN)
- IEEE Trans. on Image Processing (TIP)
- IEEE Trans. on Multimedia (TMM)
- IEEE Trans. on Knowledge and Data Engineering (TKDE)
- IEEE Trans. on Systems, Man, and Cybernetics, Part B (SMC-B)
- IEEE Trans. on Circuits and Systems for Video Technology (CSVT)
- ACM Multimedia Computing, Communications & Applications (TOMCCAP)
- International Journal of Computer Vision (IJCV)
- Machine Learning Journal (ML)
- Journal of Machine Learning Research (JMLR)
- ACM Transaction on Knowledge Discovery from Data (TKDD)
- International Journal on Knowledge and Information Systems (KAIS)
- Data and Knowledge Engineering Journal (DKE)
- Pattern Analysis and Applications (PAA)
- EUSAIP Image and Video Processing
- Journal of Multimedia
- IEEE Multimedia
- Multimedia System Journal
- Information Retrieval Journal
- Visual Computer

PUBLICATIONS

[Google scholar h-Index: 24, as of 12/01/2010]

Thesis

1. Rong Yan, *Probabilistic Models for Combining Diverse Knowledge Sources in Multimedia Retrieval*, Ph.D. Thesis, 2006

Book Chapter

1. Datong Chen, Yi Chang, Rong Yan and Jie Yang, *Protecting Personal Identification in Video*, In *Protecting Privacy in Video Surveillance*, Springer London, 2009
2. Lexing Xie, Rong Yan, *Extracting Semantics from Multimedia Content: Challenges and Solutions*, In *Multimedia Content Analysis: Theory and Applications*, A. Divakaran Ed., Springer, 2008.
3. Alexander G. Hauptmann, Rong Yan, Wei-Hao Lin, Michael Christel and Howard Wactlar, *Filling the Semantic Gap in Video Retrieval: An Exploration*, In *Semantic Multimedia and Ontologies* (Y. Kompatsiaris and P. Hobson Eds.), Springer, 2008
4. Rong Yan, Jian Zhang, Jie Yang and Alexander G. Hauptmann, *Discriminative Learning with Pairwise Constraints for Video Object Classification*, In *Constrained Clustering: Advances in Algorithms, Theory, and Applications* (Sugato Basu, Ian Davidson and Kiri Wagstaff Eds.), Chapman & Hall/CRC Press, 2008.
5. Rong Yan, Alexander G. Hauptmann and Rong Jin, *Multimedia Search with Pseudo-Relevance Feedback*, In *Video Mining* (A. Rosenfeld et al. Eds), Springer, 2003

Journal

1. Rong Yan, Apostol Natsev, Murray Campbell, *Hybrid Tagging and Browsing Approaches for Efficient Manual Image Annotation*, In *IEEE Multimedia*, Volume 16, Issue 2 (April 2009).
2. Alexander G. Hauptmann, Michael Christel and Rong Yan, *Video Retrieval based on Semantic Concepts*, In *Proceedings of the IEEE* 96(4): 602-622, April 2008
3. Jun Yang, Rong Yan, Eric P. Xing, and Yan Liu, *Harmonium Models for Video Classification*, In *Statistical Analysis and Data Mining*, 2008
4. Rong Yan and Alexander G. Hauptmann, *A review of text and image retrieval approaches for broadcast news video*, In *Information Retrieval Journal*, 2007
5. Alexander G. Hauptmann, Rong Yan, Wei-Hao Lin, Michael Christel and Howard Wactlar, *Can High-Level Concepts Fill the Semantic Gap in Video Retrieval? A Case Study With Broadcast News*, In *IEEE Transaction on Multimedia*, Aug. 2007
6. Datong Chen, Yi Chang, Rong Yan, and Jie Yang, *Tools for Protecting Privacy of Specific Individuals in Video*, In *EURASIP Journal on Applied Signal Processing*, Special Issue on "Signal Processing Technologies for Ambient Intelligence in Home-Care Applications", 2007
7. Rong Yan, Jian Zhang, Jie Yang and Alexander G. Hauptmann, *A Discriminative Learning Framework with Pairwise Constraints for Video Object Classification*, In *IEEE Transaction on Pattern Analysis and Machine Intelligence* 28, 2006

8. Rong Yan and Alexander G. Hauptmann, *Co-Retrieval: A Boosted Reranking Approach for Multimedia Retrieval*, In IEE Vision, Image & Signal Processing, Special Issue on Image and Video Retrieval, 2005.
9. Alexander G. Hauptmann, Jiang Gao, Rong Yan, Yanjun Qi and Jie Yang, *Aiding Geriatric Patients and Caregivers through Automated Analysis of Nursing Home Observations*, In IEEE Pervasive Computing, Special Issue on Pervasive Computing for Successful Aging, 2004.

Conference

Digital / Social Media Analysis

1. Lexing Xie, Rong Yan, Jelena Tesic, Apostol Natsev, John R. Smith, *Probabilistic visual concept trees*, In ACM Multimedia 2010
2. Shenghua Bao, Shengliang Xu, Li Zhang, Rong Yan, Dingyi Han, Zhong Su and Yong Yu, *Joint Emotion-Topic Modeling for Social Affective Text Mining*, in Proc. of IEEE International Conference on Data Mining (ICDM), 2009
3. Winston Hsu, Tao Mei, and Rong Yan, *Knowledge Discovery over Community-Sharing Media – from Signal to Intelligence*, In IEEE International Conference On Multimedia and Expo (ICME) 2009
4. Jun Yang, Rong Yan, Alexander G. Hauptmann, *Cross-Domain Video Concept Detection Using Adaptive SVMs*, In ACM Multimedia, 2007
5. Apostol Natsev, Alexander Haubold, Jelena Tesic, Lexing Xie, Rong Yan, *Semantic Concept-Based Query Expansion and Re-ranking for Multimedia Retrieval*, In ACM Multimedia, 2007
6. Alexander G. Hauptmann, Rong Yan and Wei-hao Lin, *How many high-level concepts will fill the semantic gap in news video retrieval?*, In Intl. Conf. on Image and Video Retrieval (CIVR), 2007. **Best Paper Runner-up**
7. Rong Yan, Ming-Yu Chen and Alexander G. Hauptman, *Mining Relationship between Video Concept using Probabilistic Graphical Models*, In IEEE International Conference On Multimedia and Expo (ICME), 2006
8. Yi Chang, Rong Yan, Datong Chen, Jie Yang, *People Identification with Limited Labels in Privacy-Protected Video*, In IEEE International Conference On Multimedia and Expo (ICME), 2006
9. Jun Yang, Rong Yan and Alexander G. Hauptmann, *Multiple Instance Learning for Labeling Faces in Broadcasting News Video*, In ACM Multimedia'05.
10. Rong Yan, Milind R. Naphade, *Semi-supervised Cross Feature Learning for Semantic Concept Detection in Video*, In IEEE Conference on Computer Vision and Pattern Recognition(CVPR), 2005
11. Rong Yan, Jun Yang and Alexander G. Hauptmann, *Learning Query-Class Dependent Weights for Automatic Video Retrieval*, In ACM Multimedia 2004, **Best Paper Runner-up**
12. Rong Yan and Alexander G. Hauptmann, *Multi-class Active Learning for Video Semantic Feature Extraction*, In IEEE International Conference On Multimedia and Expo (ICME), Special Session on "Active Learning on Multimedia Retrieval", 2004.
13. Rong Yan and Alexander G. Hauptmann, *The Combination Limit of Video Retrieval*, In ACM Multimedia, 2003

Machine Learning / Data Mining

1. Wei Fan, Er-Heng Zhong, Jing Peng, Olivier Verscheure, Kun Zhang, Jiangtao Ren, Rong Yan, Qiang Yang, *Generalized and Heuristic-Free Feature Construction for Improved Accuracy*. In SIAM Conference on Data Mining (SDM), 2010
2. Rong Yan, Jian Zhang, *Transfer Learning using Task-Level Features with Application to Information Retrieval*, In 21st International Joint Conference on Artificial Intelligence (IJCAI), 2009
3. Michele Merler, Rong Yan, John R. Smith, *Imbalanced RankBoost for Efficiently Ranking Large-Scale Image/Video Collections*, In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2009
4. Rong Yan, Jelena Tesic and John R. Smith, *Model-Shared Subspace Boosting for Multi-label Classification*, In ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2007.
5. Jun Yang, Rong Yan, Alexander G. Hauptmann, *Adapting SVM Classifiers to Data with Shifted Distributions*, In International Conference on Data Mining (ICDM), workshop on “Knowledge Discovery from Multimedia Data and Multimedia Applications”, 2007
6. Jian Zhang, Rong Yan, *On the Value of Pairwise Constraints in Classification and Consistency*, In Intl. Conf. on Machine Learning (ICML), 2007.
7. Eric P. Xing, Rong Yan and Alex G. Hauptmann, *Mining Associated Text and Images with Dual-wing Harmoniums*, In Uncertainty in Artificial Intelligence (UAI), 2005
8. Rong Yan, Jian Zhang, Jie Yang and Alexander G. Hauptmann, *A Discriminative Learning Framework with Pairwise Constraints for Video Object Classification*, In IEEE Conference on Computer Vision and Pattern Recognition(CVPR), 2004, **Oral Presentation (4% acceptance rate)**
9. Rong Yan, Jie Yang, Alexander G. Hauptmann, *Automatically Labeling Data Using Multi-class Active Learning*, In the 9th International Conference on Computer Vision (ICCV), 2003.
10. Rong Jin, Rong Yan, Jian Zhang, Alexander G. Hauptmann, *A Faster Iterative Scaling Algorithm For Conditional Exponential Model*, In International Conference on Machine Learning (ICML), 2003.
11. Rong Yan, Yan Liu, Rong Jin and Alexander G. Hauptmann, *On Predicting Rare Class with SVM Ensemble in Scene Classification*, In International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2003

Information Retrieval

1. Rong Yan, Alexander G. Hauptmann, *Query Expansion using Probabilistic Local Feedback with Application to Multimedia Retrieval*, In ACM Sixteenth Conference on Information and Knowledge Management (CIKM), 2007.
2. Rong Yan and Alexander G. Hauptmann, *Probabilistic Latent Query Analysis for Combining Multiple Retrieval Sources*, In ACM SIGIR Conference (SIGIR), 2006
3. Rong Yan and Alexander G. Hauptmann, *Efficient Margin-based Rank Learning Algorithms for Information Retrieval*, In International Conference on Image and Video Retrieval (CIVR), 2006

4. Rong Yan and Alexander G. Hauptmann, *Co-Retrieval: A Boosted Reranking Approach for Multimedia Retrieval*, In International Conference on Image and Video Retrieval (CIVR), 2004
5. Rong Yan, Alexander G. Hauptmann and Rong Jin, *Negative Pseudo-Relevance Feedback in Content-based Video Retrieval*, In ACM Multimedia, 2003
6. Rong Yan, Alexander G. Hauptmann and Rong Jin, *Multimedia Search with Pseudo-Relevance Feedback*, In International Conference on Image and Video Retrieval (CIVR), 2003

Human-Computer Interaction

1. Rong Yan, Apostol Natsev, Murray Campbell, *A Learning-based Hybrid Tagging and Browsing Approach for Efficient Manual Image Annotation*, In IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), 2008
2. Rong Yan, Apostol Natsev, Murray Campbell, *An Efficient Manual Image Annotation Approach based on Tagging and Browsing*, In ACM Multimedia workshop on “The Many Faces of Multimedia Semantics”, 2007.
3. Michael Christel and Rong Yan, *Merging Storyboard Strategies and Automatic Retrieval for Improving Interactive Video Search*, In International Conference on Image and Video Retrieval (CIVR), 2007
4. Alexander G. Hauptmann, Wei-Hao Lin, Rong Yan, Jun Yang, Robert V. Baron, Ming-yu Chen, Sean Gilroy, Michael D. Gordon, *Exploring the Synergy of Humans and Machines in Extreme Video Retrieval*. International Conference on Image and Video Retrieval (CIVR), 2006
5. Alexander G. Hauptmann, Wei-Hao Lin, Rong Yan, Jun Yang and Robert Chen, *Extreme Video Retrieval: Joint Maximization of Human and Computer Performance*, In ACM Multimedia, 2006.

Large-Scale Distributed Systems

1. Deepak S. Turaga, Hyunggon Park, Rong Yan, and Olivier Verscheure, *Adaptive Multimedia Mining on Distributed Stream Processing Systems*, IEEE Intl Conf. on Data Mining (ICDM), 2009
2. Rong Yan, Marc-Olivier Fleury, Michele Merler, Apostol Natsev, John R. Smith, *Large-Scale Multimedia Semantic Concept Modeling using Robust Subspace Bagging and MapReduce*, In ACM Multimedia, Workshop on Large-Scale Multimedia Mining and Retrieval, 2009
3. Deepak S. Turaga, Brian Foo, Olivier Verscheure and Rong Yan, *Configuring Topologies of Distributed Semantic Concept Classifiers for Continuous Multimedia Stream Processing*, In ACM Multimedia, 2008
4. Rong Yan and Seth Goldstein, *Mobile Memory: Improving Data Locality in Very Large Reconfigurable Fabric*, In IEEE Symposium on Field-Programmable Custom Computing Machines (FCCM'02), April 8 - April 11, 2002

SCHOLARLY ADDRESSES

Keynote Addresses and Invited Presentations

1. Invited presentation, “Face Detection and Suggestion in Facebook”, SPIE Multimedia Content Access: Algorithms and Systems V, Palo Alto, Jan. 2011
2. Invited presentation, “Large-Scale Challenge of Data Mining and Multimedia in Facebook”, Stanford AIRS workshop, Jun. 2010
3. Keynote talk, “Towards iMARS 2.0: Algorithms and Platforms for Large-scale Multimedia Analysis”, in Large-Scale Cross-Media Retrieval Workshop, Hangzhou, China, Oct. 2009
4. Invited presentation, “Towards iMARS 2.0: Algorithms and Platforms for Large-scale Multimedia Analysis”, ACM Multimedia Program Committee Workshop, New York, Jun. 2009

Conference Tutorials

1. “Large-Scale Data Mining: MapReduce and beyond”, in Knowledge Discovery and Data Mining (KDD)’10, with J. Sun and S. Papadimitriou
2. “Large-Scale Data Mining: MapReduce and beyond”, in Intl. Conf. on Data Mining (ICDM)’09, with Jimeng Sun and Spiros Papadimitriou
3. “Content-based and Semantic-based Retrieval for Large-Scale Image / Video Collections”, in ACM Multimedia’09, with Winston Hsu (33 registration out of 104 total tutorial attendees among 8 tutorials, actually 52 audiences in the lecture)
4. “Content-based and Semantic-based Image/Video Retrieval”, in ICASSP’09, with Winston Hsu
5. “Recent Developments in Content-based and Concept-based Image/Video Retrieval”, in ACM Multimedia’08, with Winston Hsu (39 registration out of 130 total tutorial attendees among 8 tutorials)
6. “Content-based and Semantic-based Image/Video Retrieval”, in SIGIR’08, with Winston Hsu (Rating: 4.4 / 5, vs. average tutorial rating: 3.9 / 5)

University Presentations

1. Invited talk, “Large-Scale Challenge of Data Mining and Multimedia in Facebook”, UC Irvine, CS Dept., May 2010
2. Invited talk, “Large-Scale Machine Learning - Algorithms and Platforms”, CMU West Campus, Apr. 2010
3. Invited talk, “Large-Scale Machine Learning: Algorithms and Platforms”, in State Univ. of New York, Albany (SUNY-Albany), Oct. 2009
4. Invited talk, “Transfer Learning with applications to Media Analysis”, in Hong Kong University of Science and Technology (HKUST), Oct. 2009
5. Invited talk, “Algorithms and Platforms for Large-scale Multimedia Analysis”, City University of Hong Kong (CUHK), Oct. 2009
6. Invited talk, “Efficient methods for learning video concepts from large-scale collections”, in Tsinghua Univ., Jan. 2008
7. Invited talk, “Efficient methods for learning video concepts from large-scale collections”, in China Academy of Sciences, Jan. 2008
8. Invited talk, “Efficient methods for learning video concepts from large-scale collections”, in City University of Hong Kong, Dec. 2007
9. Invited talk, “Probabilistic Models for Combining Diverse Knowledge Sources in Multimedia Retrieval”, in Columbia Univ., Mar. 2007

10. Invited talk, “Probabilistic Models for Combining Diverse Knowledge Sources in Multimedia Retrieval”, in Univ. of California Santa Cruz, Apr. 2006
11. Invited talk, “Learning Query-Class Dependent Weights for Automatic Video Retrieval”, LTI seminar in Carnegie Mellon Univ., Dec. 2004
12. Invited talk, “Negative Pseudo-Relevance Feedback in Content-based Video Retrieval”, IR Seminar in Carnegie Mellon Univ., May 2003

Industrial Invited Presentations

1. Invited talk, “iMARS: Multimedia Analysis and Retrieval System”, in IBM China Research Lab, Feb. 2008.
2. Invited talk, “Efficient methods for learning video concepts from large-scale collections”, Microsoft Research Asia, Jan. 2008.
3. Invited talk, “Efficient methods for learning video concepts from large-scale collections”, Intel Research, China, Jan. 2008.
4. Invited talk, “Probabilistic Models for Combining Diverse Knowledge Sources in Multimedia Retrieval”, in Microsoft Research, Mar. 2006
5. Invited talk, “Probabilistic Models for Combining Diverse Knowledge Sources in Multimedia Retrieval”, Emerging Leader in Multimedia seminar in IBM T.J. Watson Research Center, Aug. 2005
6. Invited talk, “Semi-supervised Cross Feature Learning for Semantic Concept Detection in Video”, in IBM T.J. Watson Research Center, Aug. 2004

ACADEMIC ACTIVITIES

Grant Activities

1. Key Personnel, IARPA VACE-III project (option year), “Analyst-Centric Workbench for Large-Scale Cross-Domain Video Intelligence”, IBM Research, 2008 - 2009
2. Key Personnel, IARPA VACE-III project, “Analyst-Centric Workbench for Large-Scale Cross-Domain Video Intelligence”, IBM Research, 2006 - 2008
3. Key Personnel, “Curriculum-Based Deeply Layered Learning”, submitted to DARPA, Deep Learning (DARPA-BAA-09-40) program, 2009
4. Co-PI, “Real-time Resource-Adaptive Scene and Activity Recognition from Multi-Source Image Streams”, submitted to NRO, Advanced Systems and Technology Directorate (NRO000-09-R-0387), 2009
5. Contributor, ARDA VACE-II project, “ENVIE: Extensible News Video Information Exploitation”, Carnegie Mellon Univ., 2003 – 2005
6. Contributor, NSF, “Large-Scale Concept-Ontology Modeling (LSCOM)”, 2005

Guest Lectures

1. Guest lecture, “Active Learning”, CMU West Campus, Nov. 2010
2. Guest lecture, “Pictures and Words: Matching Images to Words in Large-Scale Dataset”, CS 223B: Introduction to Computer Vision, Stanford University, Mar. 2010

Student Mentorship

1. Jiang Zhu, CMU West Campus, Sep. 2010 -
2. Dongzhen Piao, CMU West Campus, Sep. 2010 -
3. Huan-Kai Peng, CMU West Campus, Sep. 2010 -
4. Lu Zheng, CMU West Campus, Sep. 2010 -

5. Michelle Cossalter, CMU West Campus, Sep. 2010 -
6. Duo Zhang, UIUC, Jun. 2010 – Sep. 2010
7. Shenghua Bao, IBM China Research Lab, Sep. 2008 – Sep. 2009
8. Yi Zhang, Carnegie Mellon Univ., Jun. 2009 – Sep. 2009
9. Lei Ding, Ohio State Univ., Jun. 2009 – Aug. 2009
10. Michele Merler, Columbia Univ., Jun. 2008 – Sep. 2009
11. Marc-Olivier Fleury, EPFL, Sep. 2008 – Feb. 2009
12. Jun Yang, Carnegie Mellon Univ., Jun. 2007 – Sep. 2007

Teaching Assistantship

1. Teaching Assistant, “Artificial Intelligence(15-381)”, Carnegie Mellon University, Jan. – May 2005
2. Teaching Assistant, “Data Mining”, Carnegie Mellon University, Boeing Corporation, Sep. – Dec. 2005
3. Teaching Assistant, “Data Mining”, Carnegie Mellon University, West Campus, Feb. – May 2003
4. Teaching Assistant, “Multimedia Applications(20-791)”, Carnegie Mellon University, Feb. – Apr. 2003
5. Teaching Assistant, “Multimedia Applications(20-791)”, Carnegie Mellon University, Sep. – Dec. 2002

LEADERSHIP & DELIVERED SYSTEMS

1. Technical lead for face detection / clustering project in Facebook, delivered a petabyte-scale image analysis system for 50 billion Facebook photos
2. Development of large-scale analytic systems on multiple distributed computing platforms including Hadoop and IBM InfoSphere Stream
3. Technical leads for multiple projects of industrial / government sectors on information retrieval, distributed machine learning, large-scale semantic mining, content-based ad-targeting, and etc.
4. Leading designer for the statistical machine learning toolbox supporting the IBM multimedia analysis and retrieval product
5. Leading designer for the CMU automatic video retrieval system analyzing and retrieving large-scale unstructured data (such as text, speech, image and video)
6. Author of MatlabArsenal, an open-source MATLAB package for popular statistical learning algorithms (>1,500 visits per month, >40 citations)

CONTESTS & PRIZES

1. Leading architect for the interactive video retrieval system that ranks the 1st among ~30 worldwide submissions in TRECVID’07 evaluation, *Nov. 2007*
2. Leading architect for the manual video retrieval system that ranks the 1st among 68 worldwide submissions in TRECVID’05 evaluation, *Nov. 2005*
3. Leading architect for the manual video retrieval system that ranks the 1st among 35 worldwide submissions in TRECVID’03 evaluation, *Nov. 2003*
4. Honorable Mention in the Mathematical Contest in Modeling (top 40% of more than 1000 participating teams), *Feb. 2000*
5. First Prize in China National Mathematical Modeling Contest (top 5% of the participating teams), *Sep. 1999*

6. First Prize and rank the 1st in the Tsinghua Mathematical Modeling Contest among 50 participating teams, *May 1999*
7. First Prize in China National Olympic of Information and National Olympic of Mathematics, rank the 1st in the Guangdong Province, *Oct. 1996*.

OTHER ACTIVITIES

1. Area co-coordinator for Facebook Student Fellowship
2. Review committee member for IBM Faculty Award, IBM Student Fellowship
3. Certified IBM courses: Teamwork and Leadership, Presentation Skills, Consulting for Researchers, Project Management Principles, and so on
4. Web Chair for Data Management PIC in IBM Research, 2007 - present
5. CMU Chinese Student & Scholar Association, IT Director, 2002 - 2003
6. CMU Operation Management Club Member, 2001 - 2003

REFERENCE (AVAILABLE UPON REQUEST)