

Jun Yang

Language Technology Institute, School of Computer Science
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OBJECTIVE

To find a permanent position in research-oriented companies or research labs. Areas of interest include analysis and search of multimedia data, machine learning, and text/data mining.

EDUCATION

Carnegie Mellon University, School of Computer Science, Pittsburgh, PA

Ph.D. in Language and Information Technologies, *Fall 2008* (Expected)

Dissertation: Learning to adapt across multimedia domains

Advisor: Alexander G. Hauptmann

GPA 3.99/4.0, IBM Ph.D. Fellowship recipient, winner of **3 Best Paper** awards and **3 Best Project** awards

Zhejiang University, Hangzhou, China

M.S. and B.S. in Computer Science and Engineering, *Jun 2000 & Apr 2003*

GPA: 3.97/4.0, ranked 1st in department of 100

PROFESSIONAL EXPERIENCE

Carnegie Mellon University, Pittsburgh, PA, *Aug 2003 – Present*

Research Assistant, Informedia Group

- Proposed and exploited machine learning techniques to improve annotation and search of multimedia and text data, such as cross-domain video concept detection using transfer learning, query-type dependent multimedia retrieval models, news video annotation with people names and locations, and text/image categorization using multi-instance learning;
- Developed the video search engine for Informedia digital library system;
- Competed in multiple TRECVID video retrieval contests and won the 2nd place in interactive video search in 2005;

IBM T. J. Watson Research Center, New York, *Jun 2007– Aug 2007*

Technical Co-op, Intelligent Information Management Department

- Developed the classification component in the IBM BlueSky system for managing and searching large-scale media content for enterprise customers including Fox News and MySpace;
- Competed in the high-level feature extraction task of TRECVID'07 video retrieval contest.

City University of Hong Kong, Hong Kong, China, *Sep 2001 – Jun 2002*

Research Assistant, Department of Computer Science

- Initiated a research project on searching online animations such as Flash media;
- Explored the synergy of link analysis, user annotations, and low-level features in the search of multimedia data on the Web

Microsoft Research Asia, Beijing, China, *Jul 2000 – Sep 2000*

Intern, Media Computing Group

- Investigated the use of knowledge bases (e.g., WordNet) to match user queries with image annotations to improve search in photo albums.

Zhejiang University, Hangzhou, China, *Sep 1999 – Apr 2003*

Research Assistant, Zhejiang University - Microsoft Visual Perception Lab

Research areas: content-based image retrieval, computer animation, and digital library

Siemens, Vienna, Austria, *Jul 1999 – Aug 1999*

Intern, Euro-Asia Business Internship Program sponsored by European Union

SKILLS

Programming: C/C++, Perl, Matlab, Java, C#

Machine learning: classifiers, transfer learning, probabilistic graphical models, multi-instance learning

Other: statistical analysis, information retrieval, feature extraction and selection, SQL

BEST PAPER AWARDS

- **Best application paper** in International SIAM Conference on Data Mining (full paper acceptance rate 9%, two papers awarded “best paper”), *Apr. 2007*.
- **Best student paper** in ACM International Conference on Image and Video Retrieval (full paper acceptance rate 12%, two papers awarded “best paper”), *Jul. 2006*.
- **Best presentation** at Student Research Symposium, Language Technology Institute, Carnegie Mellon Univ., *Oct. 2006*.
- **Best paper runner-up** in ACM Multimedia 2004 (full paper acceptance rate 17%, 3 papers selected into the best paper session), *Oct. 2004*.

FELLOWSHIPS & HONORS

- **IBM Ph.D. Fellowship**, 2007-2008 (6 new recipients in US)
- Invited panelist, **Emerging Leaders in Multimedia** seminar, IBM T.J. Watson Research, 2006 (8 panelists selected from top universities in US).
- Carnegie Mellon Research Fellowship, 2003 – *Present*
- Rockwell Scholarship, 2001
- Euro-Asia Business Internship Program, European Union, 1999 (100 students selected in Asia)
- China Jian Hao Scholarship of Outstanding Student, 1999 (awarded to 50 students in China)
- Zhejiang University President’s (Zhu Kezhen) Scholarship, 1999 (awarded to 10 students in University)

CONTESTS & PRIZES

- **Best course project** for Software Engineering for Information System 11-712: “Active learning for named-entity detection”, Carnegie Mellon Univ., *Dec. 2007*.
- Ranked 2nd in interactive video search systems in TRECVID 05 competition, *Nov. 2005*.
- **Best course project** for Probabilistic Graphical Models 10-708: “Harmonium models for semantic video representation and classification”, Carnegie Mellon Univ., *Dec. 2005*.

- **Best course project** for Language and Statistics 11-761: “Detection of artificial documents”, Carnegie Mellon Univ., May 2004.
- **Meritorious** in 16th International Mathematical Contest in Modeling, Feb. 2000.
- **Meritorious** in 15th International Mathematical Contest in Modeling, Feb. 1999.
- **First Prize** in China National Mathematical Contest in Modeling, China, 1998.

ACADEMIC SERVICE

- **Program Committee member**, Workshop on Robust Multimedia Learning in Broad Domains, 2008.
- **Program Committee member**, Asia Information Retrieval Symposium, 2008.
- **Program Committee member**, ACM Multimedia 2007 Short Paper Content track, Open Source Software track.
- **Conference Reviewer**: ACM Multimedia 2007, ICME 2008
- **Journal Reviewer**: IEEE Transaction on Multimedia, IEEE Transactions on Pattern Analysis and Machine Intelligence, Multimedia Tools and Applications, Pattern Recognition Letters, Transactions on Knowledge and Data Engineering, Journal of Visual Communication and Image Representation

PUBLICATIONS

JOURNAL PUBLICATIONS

- **Jun Yang**, R. Yan, Y. Liu, and E. P. Xing, *Harmonium Models for Video Classification*. *Statistical Analysis and Data Mining*, Journal of Statistical Analysis and Data Mining, 2007.
- **Jun Yang**, Qing Li, Yueting Zhuang, *Towards Data-adaptive and User-adaptive Image Retrieval by Peer Indexing*, International Journal on Computer Vision (IJCV), special issue on Content-based Image Retrieval, Vol. 56, 1-2, pp. 47-63, 2004.
- **Jun Yang**, Qing Li, Liu Wenyin, Yueting Zhuang, *Searching for Flash Movies on the Web: a Content and Context Based Framework*, in World Wide Web Journal, vol. 8(4), pp. 495-517, Kluwer Academic, 2005.
- **Jun Yang**, Qing Li, Liu Wenyin, Yueting Zhuang, *Content-based Retrieval of Flash Movies: Research Issues, Generic Framework, and Future Directions*, Multimedia Tools and Application, Kluwer Academic, 2006.

CONFERENCE PUBLICATIONS

- **Jun Yang**, Alex Hauptmann, *A Framework for Classifier Adaptation and its Applications in Concept Detection*, ACM Int'l Conf. on Multimedia Information Retrieval (MIR) 2008, Vancouver, Canada, 2008.
- **Jun Yang**, Alex Hauptmann, *(Un)Reliability of Video Concept Detection*, ACM Int'l Conf. on Image and Video Retrieval (CIVR) 2008, Niagara Fall, Canada, 2008.
- **Jun Yang**, Rong Yan, Alex Hauptmann, *Cross-Domain Video Concept Detection using Adaptive SVMs*, ACM Multimedia 2007, Augsburg, Germany, 2007. **Student Conference Participant Grant**.
- **Jun Yang**, Rong Yan, Alex Hauptmann, *Adapting SVM Classifiers to Data with Shifted Distributions*, Workshop on Knowledge Discovery and Data Mining from Multimedia Data and Multimedia Applications, in conjunction with ICDM, Omaha, NE, 2007.
- **Jun Yang**, Yu-Gang Jiang, Alex Hauptmann, Chong-Wah Ngo, *Evaluating Bag-of-Visual-Words Representations for Scene Classification*, Workshop on Multimedia Information Retrieval (MIR), in conjunction with ACM Multimedia 2007.
- Yu-Gang Jiang, Chong-Wah Ngo, **Jun Yang**, *Towards Optimal Bag-of-Features for Object Categorization and Semantic Video Retrieval*, ACM Int'l Conf. on Image and Video Retrieval (CIVR), Amsterdam, 2007.

- **Jun Yang**, Yan Liu, Eric P. Xing, Alex Hauptmann, *Harmonium Models for Semantic Video Representation and Classification*, in SIAM Conf. on Data Mining, Minneapolis, MN, 2007. **Best Application Paper** and **Student Travel Award**
- **Jun Yang**, Alex Hauptmann, *Exploring Temporal Consistency for Video Retrieval and Analysis*, in Workshop on Multimedia Information Retrieval (MIR), Santa Barbara, CA, 2006. **Student Travel Award**
- **Jun Yang**, Alex Hauptmann, *3WNews: Who, Where, When in News Video*, in ACM Multimedia 2006, Santa Barbara, CA, 2006.
- Alex Hauptmann, Wei-Hao Lin, Rong Yan, **Jun Yang**, Ming-Yu Chen, *Extreme Video Retrieval: Joint Maximization of Human and Computer Performance*, in ACM Multimedia 2006, Santa Barbara, CA, 2006.
- **Jun Yang**, Alex Hauptmann, *Annotating News Video with Locations*, in Int'l Conf. on Image and Video Retrieval (CIVR), Tempe, AZ, 2006. **Best Student Paper Award**
- **Jun Yang**, Rong Yan, Alex Hauptmann, *Multiple Instance Learning for Labeling Faces in Broadcasting News Video*, in ACM Multimedia 2005, Singapore, 2005.
- **Jun Yang**, Alex Hauptmann, *Multi-Modality Analysis for Person Type Classification in News Video*, in SPIE Conf. on Media Computing and Networking, San Jose, 2005.
- Dawei Ding, **Jun Yang**, Qing Li, Wenyin Liu, Liping Wang, *What Can Expressive Semantics Tell: Retrieval Model for a Flash-Movie Search Engine*, in Conf. on Image and Video Retrieval (CIVR), Singapore, 2005.
- Rong Yan, **Jun Yang**, Alex Hauptmann, *Learning Query-Class Dependent Weights in Automatic Video Retrieval*, In Proc. ACM Multimedia 2004, New York City, 2004. **Runner-up of Best Paper**
- **Jun Yang**, Alex Hauptmann, *Naming Every Individual in News Video Monologues*, in ACM Multimedia 2004, New York City, 2004.
- **Jun Yang**, Ming-yu Chen, Alex Hauptmann, *Finding Person X: Correlating Names with Visual Appearances*, in Int'l Conf. on Image and Video Retrieval (CIVR), Dublin, Ireland, 2004.
- **Jun Yang**, Alex Hauptmann, *Video Grammar for Locating Named People*, in Joint Conf. on Digital Libraries (JCDL), Tucson, AZ, 2004.
- Dawei Ding, **Jun Yang**, Qing Li, Liping Wang, Wenyin Liu, *Towards a Flash Search Engine based on Expressive Semantics*, in Int'l Conf. on World Wide Web (WWW), New York, 2004.
- **Jun Yang**, Qing Li, Yueting Zhuang, *Modeling Data and User Characteristics by Peer Indexing in Content-based Image Retrieval*, in Int'l Conf. on Multimedia Modeling, Kamkang, Taiwan, 2003.
- Jian Zhai, **Jun Yang**, Qing Li, Liu Wenyin, Bo Feng, *Rich Media Retrieval on the Web – a Multi-level Indexing Approach*, in Int'l World Wide Web Conference (WWW), Budapest, Hungary, 2003.
- **Jun Yang**, Qing Li, Liu Wenyin, Yueting Zhuang, *FLAME: A Generic Framework for Content-based Flash Retrieval*, in Workshop on Multimedia Information Retrieval (MIR), 2002.
- Qing Li, **Jun Yang**, Yueting Zhuang, *MediaView: A Semantic View Mechanism for Multimedia Modeling*, in IEEE Pacific-Rim Conf. on Multimedia (PCM), 2002.
- **Jun Yang**, Qing Li, Liu Wenyin, Yueting Zhuang, *Search for Flash Movies on the Web*, Int'l Conf. on Web Information Systems Engineering, workshop on Mining for Enhanced Web Search, Singapore, 2002.
- Yueting Zhuang, **Jun Yang**, Qing Li, Yunhe Pan, *A Graphic-Theoretic Model for Incremental Relevance Feedback in Image Retrieval*, in Int'l Conf. on Image Processing (ICIP), Rochester, NY, 2002.
- **Jun Yang**, Qing Li, Yueting Zhuang, *Image Retrieval and Relevance Feedback using Peer Indexing*, in IEEE Int'l Conf. on Multimedia and Expo (ICME), Lausanne, Switzerland, 2002.
- **Jun Yang**, Qing Li, Yueting Zhuang, *Octopus: Aggressive Search of Multi-Modality Data Using Multifaceted Knowledge Base*, in Int'l Conf. on World Wide Web (WWW), Hawaii, 2002.

- **Jun Yang**, Yueting Zhuang, Qing Li, *Search for Multi-Modality Data in Digital Libraries*, in Proc. of 2nd IEEE Pacific-Rim Conf. on Multimedia (PCM), Beijing, China, 2001.
- **Jun Yang**, Liu Wenying, Hongjiang Zhang, Yueting Zhuang, *Thesaurus-Aided Approach for Image Retrieval and Browsing*, in IEEE Int'l Conf. on Multimedia and Expo (ICME), Tokyo, Japan, 2001.
- Qing Li, **Jun Yang**, Yueting Zhuang, *Web-based Multimedia Retrieval: Balancing out between Common Knowledge and Personalized Views*, in Proc. of 2nd Int'l Conf. on Web Information System Engineering, Kyoto, Japan, 2001.
- **Jun Yang**, Liu Wenying, Hongjiang Zhang, Yueting Zhuang, *An Approach to Semantics-Based Image Retrieval and Browsing*, in Int'l Conf. on Distributed Multimedia Systems (DMS), Taiwan, 2001.

BOOK CHAPTERS

- Qing Li, **Jun Yang**, Yueting Zhuang, *Multimedia Information Retrieval*, Encyclopedia of Multimedia Technology and Network, Volume II, Published by Idea Group, Margherita Pagani (eds.).
- Qing Li, **Jun Yang**, Yueting Zhuang, *Chapter 9: A Semantic Data Modeling Mechanism for Multimedia Databases*, Multimedia information retrieval and management : technological fundamentals and applications, David Dagan Feng, Wan-Chi Siu, Hong-Jiang Zhang (eds.). Springer, c2003.

OTHER REFERRED PAPERS

- Hauptmann, A., Ziang, G., Baron, R., **Yang, J.**, Maher, B., Lin, W.-H., Christel, M., Clever Clustering vs. Simple Speed-up for Summarizing Rushes, TRECVID Summarization Workshop at ACM Multimedia 2007, Augsburg, Germany, 2007.
- A.G. Hauptmann, M. Christel, R. Concescu, J. Gao, Q. Jin, W.-H. Lin, J.-Y. Pan, S. M. Stevens, R. Yan, **J. Yang**, Y. Zhang, *CMU Informedia's TRECVID 2005 Skirmishes*, in TRECVID 2005 Workshop, Gaithersburg, MD, 2005.
- A. Hauptmann, R.V. Baron, M.-Y. Chen, M. Christel, P. Duygulu, C. Huang, R. Jin, W.-H. Lin, T. Ng, N. Moraveji, N. Papernick, C.G.M. Snoek, G. Tzanetakis, **J. Yang**, R. Yan, and H.D. Wactlar, *Informedia at TRECVID 2003: Analyzing and Searching Broadcast News Video*, in TRECVID 2003 Workshop, Gaithersburg, MD, November 2003.
- Dawei Ding, Qing Li, **Jun Yang**, *Multimedia Data Integration and Navigation through MediaView: Implementation, Evolution and Utilization*, in Int'l Conf. on Database Systems for Advanced Applications, Island, Korea, Feb. 2004.
- Feng Bo, Qing Li, **Jun Yang**, Liu Wenying, Zhai Jian, *Efficient Database Facilities For Content-based Flash Retrieval*, in IEEE Int'l Conf. on Multimedia and Expo (ICME), Baltimore, 2003.
- Zhuang Yueting, Liu xiaoming, Pan Yunhe, **Yang Jun**, *Human Three Dimension Motion Skeleton Reconstruction of Motion Image Sequence*, Journal of Computer-aided Design & Computer Graphics, 12(4), 245-251, 2002. (in Chinese)

TEACHING EXPERIENCE

Teaching Assistant, 11-761 Language and Statistics, Carnegie Mellon Univ., Jan 2008 – May 2008.

Teaching Assistant, 15-392 Introduction to Computer Music, Carnegie Mellon Univ., Jan 2006 – May 2006.

TALKS

Oral Presentation, “(Un)Reliability of Video Concept Detection”, in ACM Int'l Conf. on Image and Video Retrieval, Niagara Falls, Ontario, Canada, 2008.

Oral Presentation, “Cross-domain Video Concept Detection using Adaptive SVMs”, in ACM Multimedia 2007, Augsburg, Germany, Oct. 2007.

Oral Presentation, “Harmonium Models for Semantic Video Representation and Classification”, in SIAM Conference on Data Mining, Minneapolis, MN, Apr. 2007.

Oral Presentation, “Exploring Temporal Consistency for Video Retrieval and Analysis”, in Workshop on Multimedia Information Retrieval (MIR), Santa Barbara, Oct. 2006.

Invited Talk, “Annotating News Video with People and Locations”, in Watson Emerging Leaders of Multimedia seminar, IBM T.J. Watson Research Center, Hawthorne, NY, Oct. 2006.

Oral Presentation, “Do Images Have Visual Keywords?”, Student Research Symposium, Language Technology Institute, Carnegie Mellon University., Oct. 2007. **Best Presentation**

Oral Presentation, “Annotating News Video with Locations”, in Int’l Conf. on Image and Video Retrieval (CIVR), Tempe, AZ, Jul, 2006.

Oral Presentation, “Efficient Margin-Based Rank Learning Algorithms for Information Retrieval”, in Int’l Conf. on Image and Video Retrieval (CIVR), Tempe, AZ, Jul, 2006.

Invited Talk, “Video Annotation and Retrieval in Informedia”, City University of Hong Kong, Dec, 2005.

Oral Presentation, “Multi-Modality Analysis for Person Type Classification in News Video”, in SPIE Conference on Media Computing and Networking, San Jose, Jan, 2005.

Invited Talk, “Associating Names and Faces in Broadcast News Video”, Information Retrieval (IR) seminar at Carnegie Mellon Univ., Nov. 2004.

Oral Presentation, “Naming Every Individual in News Video Monologue”, in ACM Multimedia 2004, New York City, Oct. 2004.

HOBBIES

Nature photography, Travel (10 countries and 40+ states in US), Classical music, Documentary, Cycling, The Pittsburgh Steelers

REFERENCES

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