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EDUCATION	Singapore Management University , Singapore Ph.D. in Information Systems, School of Information Systems Advisors: Jialie Shen & Shuicheng Yan Thesis: Personalized and Context-Aware Music Retrieval and Recommendation	2011 - 6/2016 (Expected)
	Xi'an Jiaotong University , Xi'an, China M.E. in Power Machinery and Engineering Advisor: Haiyan Miao Thesis: Effect of Diluent Gas on Flammability Limits of Hydrogen Enriched Ethane and Propane	2007 - 2010
	Huazhong University of Science and Technology , Wuhan, China B.E. in Thermal Energy and Power Engineering Thesis: Investigation on the Mechanism of Bio-fuel Combustion Reaction	2003 - 2007
RESEARCH INTERESTS	Information Retrieval, Social Media Analysis, Multimedia Content Search & Recommendation (especially on the utilization of online social data for user-centric media search and recommendation & the combination of multimodality features for media content retrieval)	
RESEARCH EXPERIENCES	Singapore Management University , Singapore <i>Graduate Student Researcher</i> with Prof. Jialie Shen	Aug. 2011 - Present
	<ul style="list-style-type: none">• Personalized Music Search - we developed a personalized text-based music search framework by analyzing the correlation between users, songs and terms based on online music listeners' listening behaviors [SIGIR 2016a].• User-specific Information based Music Search - we studied the effects of user-specific information (such as age and gender) on music preferences based on large scale online music listeners' data and explored the use-specific information in text-based music search to improve the music search accuracy [TOIS (under 2nd round review)].• VenueAware Music Recommender System - we developed a venue-aware music recommender system to automatically identify suitable songs for various popular venues in our daily lives (e.g., gym and library) [TOIS 2016]. A prototype of the system has been implemented on Android mobile platform [SIGIR 2015].• Just-for-Me Personalized Music Recommender System - we proposed a music recommender system, which integrates user's personal music preference, the influence of location context and global music trends into a unified probabilistic framework, for personalized music recommendation [ICMR 2014]. A prototype of the system has been implemented on Windows Phone 8 platform [SIGIR 2014].• Landmark Image Collection Construction - we developed a very large scale landmark image test collection, and conducted a series of baseline experimental studies on the performance of textual and visual queries [MMM13, Signal Processing 2016].	
	Carnegie Mellon University , Pittsburgh, USA <i>Visiting Scholar</i> with Prof. Alexander G. Hauptmann	Aug. 2014 - Jul. 2015
	<ul style="list-style-type: none">• TRECVID 2015 Video Hyperlinking Competition - we (with a master student, Jialie Shen, and Alex Hauptmann) participated in the Video Hyperlinking task in TRECVID 2015.	

Our system achieved top performance in the competition (Evaluated by two metrics, we achieved **1st place** on MAP and **2nd place** on MaiSP) [SIGIR 2016b].

- **Automatic Semantic Query Generation** - we (with a master student) proposed an automatic semantic query generation method based on a probabilistic semantic concept embedding model for Zero-example Multimedia Event Detection (MED).

Singapore Management University, Singapore Nov. 2010 - Jul. 2011
Research Engineer with Prof. Jialie Shen

- **Visual Query Complexity** - we proposed a quantitative metric to measure the complexity of visual queries in content-based image retrieval systems [PCM 11, MMSJ 2015].

Singapore Management University, Singapore Nov. 2009 - Nov. 2010
Research Fellow with Prof. Jialie Shen

- **Social Image Retrieval** - we investigated the performances of text-based image retrieval and content-based image retrieval techniques on large scale social image collections [ICIMCS 2011, MMSJ 2015].

PUBLICATIONS

Journal articles:

1. **Zhiyong Cheng**, Jialie Shen, Liqiang Nie, Tat-seng Chua. Exploring User-Specific Information in Semantic-Based Music Retrieval. *ACM Transactions on Information Systems (TOIS)* (under 2nd round review).
2. **Zhiyong Cheng**, Jialie Shen. On Effective Location-Aware Music Recommendation. *ACM Transactions on Information Systems (TOIS)*, vol.34, issue 4, 2016.
3. **Zhiyong Cheng**, Jialie Shen. On Very Large Scale Test Collection for Landmark Image Search Benchmarking. *Signal Processing*, vol.124, 2016.
4. **Zhiyong Cheng**, Jialie Shen, Haiyan Miao. The Effects of Multiple Query Evidences on Social Image Retrieval Systems. *ACM Multimedia Systems Journal (ACM MMSJ)*, 2015.
5. Jialie Shen, Robert H. Deng, **Zhiyong Cheng**, Liqiang Nie, Shuicheng Yan. On Robust Image Spam Filtering via Comprehensive Visual Modeling. *Pattern Recognition (PR)*, vol.48, issue 10, 2015.
6. Jialie Shen, **Zhiyong Cheng**. Personalized Video Similarity Measure. *ACM Multimedia Systems Journal (ACM MMSJ)*, vol.15, issue 7, 2011.

Peer-reviewed conference papers:

1. **Zhiyong Cheng**, Jialie Shen, Steven C.H. Hoi. On Effective Personalized Music Retrieval by Exploring Online User Behaviors. in *Proceedings of the 39th Annual International ACM SIGIR Conference on Research & Development on Information Retrieval (ACM SIGIR'16)*, Pisa, Italy, 2016. (Full paper, acceptance rate: 18%)
2. **Zhiyong Cheng**, Xuanchong Li, Jialie Shen, Alexander Hauptmann. Which Information Sources are More Effective and Reliable in Video Search. in *Proceedings of the 39th Annual International ACM SIGIR Conference on Research & Development on Information Retrieval (ACM SIGIR'16)*, Pisa, Italy, 2016. (Short paper, acceptance rate: 30.7%)
3. **Zhiyong Cheng**, Jialie Shen. Just-for-Me: An Adaptive Personalization System for Location-Aware Social Music Recommendation. in *Proceedings of the ACM International Conference on Multimedia Information Retrieval (ACM ICMR'14)*, Glasgow, UK, April, 2014. (Full paper, acceptance rate: 19.1%)
4. Jing Ren, **Zhiyong Cheng**, Jialie Shen, Feida Zhu. Influence of Influential Users: An Empirical Study of Music Social Networks. in *Proceedings of the 6th International Conference on Internet Multimedia Computing and Service (ACM ICIMCS'14)*, Xiamen, China, 2014.
5. Junge Shen, **Zhiyong Cheng**, Jialie Shen, Tao Mei, Xinbo Gao. The Evolution of Research on Multimedia Travel Guide Search and Recommender Systems. in *Proceedings of the 20th International Conference on Multimedia Modeling (MMM'14)*, Dublin, Ireland, 2014.

6. **Zhiyong Cheng**, Jing Ren, Jialie Shen, Haiyan Miao. Building a large Scale Test Collection for Effective Benchmarking of Mobile Landmark Search. in *Proceedings of the 19th International Conference on Multimedia Modeling (MMM'13)*, Huangshan, China, 2013.
7. Jialie Shen, **Zhiyong Cheng**. Visual Query Complexity. in *Proceedings of the 2011 Pacific-Rim Conference on Multimedia (PCM'11)*, Sydney, Australia, 2011.
8. **Zhiyong Cheng**, Jing Ren, Jialie Shen, Haiyan Miao. Effects of Heterogeneous Information Combination on Large Scale Social Image Search. in *Proceedings of the ACM International Conference on Internet Multimedia Computing and Service (ACM ICIMCS'11)*, Chengdu, China, 2011.
9. **Zhiyong Cheng**, Jialie Shen. Large Scale Rich Media Information Search: Challenges and Opportunities. in *Proceedings of the 2010 Pacific-Rim Conference on Multimedia (PCM'10)*, Shanghai, China, 2010.

Peer-reviewed demo papers:

1. **Zhiyong Cheng**, Jialie Shen. VenueMusic: A Venue-Aware Music Recommender System. in *Proceedings of the 38th Annual International ACM SIGIR Conference on Research & Development on Information Retrieval (ACM SIGIR'15)*, Santiago, Chile, 2015.
2. **Zhiyong Cheng**, Jialie Shen, Tao Mei. Just-for-Me: An Adaptive Personalization System for Location-Aware Social Music Recommendation. in *Proceedings of the 37th Annual International ACM SIGIR Conference on Research & Development on Information Retrieval (ACM SIGIR'14)*, Gold Coast, Australia, 2014.

Other reports:

1. **Zhiyong Cheng**, Daniel Soudry, Zexi Mao, Zhen-zhong Lan. Training Binary Multilayer Neural Networks for Image Classification using Expectation Backpropagation. *arXiv:1503.03562v3*.
2. **Zhiyong Cheng**, Xuanchong Li, Jialie Shen, Alexander G. Hauptmann. CMU-SMU@TRECVID 2015: Video Hyperlinking. *TRECVID 2015 Workshop notebookpaper*.

AWARDS & HONORS

Competition:

- [TRECVID 2015 Video Hyperlinking](#) (participated with a master student in CMU. The submitted results are evaluated by two metrics: MAP and MAiSP. Our results ranked **1st place in MAP, and 2nd place in MAiSP.**)

Travel grants:

- SIGIR Student Travel Grant 2016
- SIGIR Student Travel Grant 2015
- SIGIR Student Travel Grant 2014

Scholarships:

- Exchange Student Scholarship to study in CMU Aug. 2014 - Jul. 2015
- Postgraduate Research Scholarship, Singapore Management University 2011 - 2016
- Xi'an Jiaotong University Postgraduate Scholarship, China 2007 - 2010
- Outstanding Undergraduate Scholarship, HUST, China 2004

PROFESSIONAL ACTIVITIES

Program committee member, *the ICDM 2015 workshop on Social Media Retrieval and Analysis (SoMeRA)*, 2015

Program committee member, *the 21st International Conference on Multimedia Modelling (MMM) Special Session: Social Geo-Media Analytics and Retrieval*, 2015

Journal Reviewer, *IEEE Transactions on Multimedia (TMM)*, 2014

Reviewer, *the Annual ACM International Conference on Multimedia Retrieval (ICMR)*, 2015
Reviewer, *the IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, 2014
Reviewer, *the 18th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2014
Volunteer, *the ACM Multimedia Systems 2014 Conference (MMSys)*, 2014
Volunteer, *the 2nd Annual Workshop on Analytics for Business, Consumer and Social Insights (BCSI)*, 2013
Volunteer, *the 14th Annual International Conference on Electronic Commerce (ICEC)*, 2012
Volunteer, *the 3rd International Conference on Social Informatics (SocInfo)*, 2011

SKILLS

Programming languages:

JAVA, MATLAB, PYTHON, R, C++, FORTRAN

Tools:

THEANO, Terrier IR Platform, Visio, HTK, LibSVM, Weka, Gephi, MIRToolbox, openSMILE, ESSENTIA, OpenIMAJ, Latex, and other text/image/audio processing & machine learning toolkits

Languages:

Mandarin Chinese (native), English (fluent)

REFERENCES

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