

# Xiao-Yong Wei

(pronounced "Shall-Young We")

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## Research Interests

Multimedia Information Retrieval  
Large-Scale Data Mining  
Pattern Recognition and Machine Learning  
Computer Vision and Image Processing  
Software Architecture Design and Software Engineering

## Education

- 2006–2009 **PhD in Computer Science**, *City University of Hong Kong*, Grade: 3.85/4.3.  
PhD Thesis: Concept-based Video Search by Semantic and Context Reasoning  
Advisor: Dr. Chong-Wah Ngo
- 2002–2005 **Master of Science in Computer Science**, *Yunnan University*, China, Grade: 4.35/5.0.  
Master Thesis: Multibiometrics based on Palmprint and Handgeometry  
Advisor: Prof. Dan Xu
- 1996–2000 **Bachelor of Engineering in Construction Engineering**, *Kunming University of Science and Technology*, Kunming, Yunnan, China, Grade: 4.0/5.0.

## Selected Honors

- 2009 Best Demo Award, ACM Hong Kong Research and Career Day 2009
- 2007–2008 The Outstanding Academic Performance Award for Research Degree Students
- 2007–2008 Research Tuition Scholarship of City University of Hong Kong
- 2006–2009 Studentship of City University of Hong Kong
- 2005 Excellent Master Thesis of Yunnan University

## Selected Publications

- **Xiao-Yong Wei**, Chong-Wah Ngo, Yu-Gang Jiang, "Concept-driven Multi-Modality Fusion", *IEEE Transaction on Multimedia*, to be submitted.
- **Xiao-Yong Wei**, Chong-Wah Ngo, Yu-Gang Jiang, "Selection of Concept Detectors Using Ontology-Enriched Semantic Space", *IEEE Transaction on Multimedia*, Vol. 10, no. 6, 2008. (*Impact: 2.288*)
- **Xiao-Yong Wei**, Chong-Wah Ngo, "Fusing Semantics, Observability, Reliability and Diversity of Concept Detectors for Video Search", *ACM Multimedia 2008 (MM'08)* Vancouver, Canada, Oct. 2008. (*Oral, Acceptance Rate: 18%*)

- **Xiao-Yong Wei**, Chong-Wah Ngo, "Ontology-enriched Semantic Space for Video Search", *ACM Multimedia 2007 (MM'07)*, Augsburg, Germany, Sep. 2007. (Oral, Acceptance Rate: 19%)
- **Xiao-Yong Wei**, Yu-Gang Jiang, Chong-Wah Ngo, "Exploring Inter-concept Relationship with Context Space for Semantic Video Indexing", *ACM International Conference on Image and Video Retrieval (CIVR'09)*, Santorini, GR, July 8-10, 2009. (Oral, Acceptance Rate: 33%)
- Chong-Wah Ngo, Zailiang Pan, **Xiao-Yong Wei**, "Hierarchical Hidden Markov Model for Rushes Structuring and Indexing", *ACM International Conference on Image and Video Retrieval (CIVR'06)*, Tempe, Arizona, USA, July 13-15, 2006. (Poster)
- **Xiao-Yong Wei**, Dan Xu, Guo-Wu Yuan, "Authorization Based on Palmprint", International Conference on Intelligent Computing (ICIC'05) Heifei, China, 2005. (Oral)
- **Xiao-Yong Wei**, Dan Xu, Chong-Wah Ngo, "Multibiometrics Based on Palmprint and Handgeometry", Annual ACIS International Conference on Computer and Information Science, (ACIS-ICIS'05), Jeju Island, South Korea, 2005. (Oral)
- C. W. Ngo, Y. G. Jiang, **Xiao-Yong Wei**, W. L. Zhao, F. Wang, X. Wu, H. K. Tan, "Beyond Semantic Search: What You Observe May Not Be What You Think", NIST TRECVID Workshop (*TRECVID'08*), Gaithersburg, MD, USA, Nov. 17-18, 2008.
- C. W. Ngo, Y. G. Jiang, **Xiao-Yong Wei**, et al, "Experimenting VIREO-374: Bag-of-Visual-Words and Visual-Based Ontology for Semantic Video Indexing and Search", NIST TRECVID Workshop (*TRECVID'07*), Gaithersburg, MD, USA, Nov. 5-6, 2007.
- Y. G. Jiang, **Xiao-Yong Wei**, et at, "Modeling Local Interest Points for Semantic Detection and Video Search at TRECVID 2006", NIST TRECVID Workshop (*TRECVID'06*), 2006.
- C. W. Ngo, Z. Pan, **Xiao-Yong Wei**, et al, "Motion Driven Approaches to Shot Boundary Detection, Low-Level Feature Extraction and BBC Rushes Characterization at TRECVID 2005", TRECVID workshop (*TRECVID'05*), 2005.

## Professional Experience

2009–Present

### Senior Research Associate,

*Department of Computer Science, City University of Hong Kong, Hong Kong.*

- Propose Concept-driven Multi-Modality Fusion for large-scale multimedia retrieval

### Co-Investigator of Projects:

- \* Web-Scale Multimedia Search: From Semantic Detection to Cross-Media Reasoning (Research Council of Hong Kong: 119709)
- \* Multimedia-based Hyperlink Construction and Modeling for Web Video Search (Research Council of Hong Kong: 119508)
- \* Classifier-free Video Annotation by Online Multimedia Resources (Strategic Research Grant of CityU: 7002438)

- 2005–2009 **PhD student and Teaching Assistant**,  
*Department of Computer Science, City University of Hong Kong, Hong Kong.*
- Propose an Ontology-enriched Semantic Space for semantic reasoning
  - Propose a Context Space for context reasoning
  - Propose a multi-level fusion algorithm for combining semantics, context, reliability and diversity of semantic detectors
- Co-Investigator of Projects:**
- \* Exploiting Interaction and Co-occurrence of Multi-Modal Features for Early Fusion in Retrieval (Research Council of Hong Kong: 118906)
  - \* Large-Scale Video Search by Mining Recurrent Patterns (Strategic Research Grant of CityU: 7002112)
  - \* Video Clip Similarity Measure by EMD and Entropy Signature (Strategic Research Grant of CityU: 7001804)
  - \* Common Pattern Discovery Techniques in Images and Videos (Research Council of Hong Kong: 118905)
- 2002–2005 **Postgraduate student and Teaching Assistant**,  
*Department of Computer Science, Yunnan University, China.*
- Propose a morphology-based algorithm for the direction alignment of palmprint images
  - Propose a novel palmprint feature based on wavelet transformation
  - Propose a multibiometric algorithm for fusing palmprint and handgeometry features
- 2000–2002 **Software Architect and Manager of Software Department**,  
*Yunnan Para Telecom Ltd., China.*
- System analysis & software architecture design with Rational Rose
  - Project management
  - Computer Telephony Integration (CTI) system design and development
  - Web application development
  - Database design

## Teaching Experience

- 2008 **Assistant Lecturer**, *CS4483-Data Mining and Data Warehouse*, CityU, Hong Kong.
- 2008 **Assistant Lecturer**, *CS4280-Advanced Internet Applications Development*, CityU, Hong Kong.
- 2007 **Assistant Lecturer**, *CS2332-Object-Oriented Programming*, CityU, Hong Kong.
- 2006 **Teaching Assistant**, *CS3185-Computer Architecture*, CityU, Hong Kong.
- 2006 **Teaching Assistant**, *CS4483-Data Mining and Data Warehouse*, CityU, Hong Kong.

## Talks

- Nov. 2009 **Invited Talk**, *Semantic-based Video Search—Towards the Next Generation of Multimedia Computing*, University of Electronic Science and Technology, China.
- Nov., 2009 **Invited Talk**, *Concept-Driven Multi-Modality Fusion for Multimedia Retrieval*, Sichuan University, Chengdu, China.
- Oct. 2008 **Oral Presentation**, *"Fusing Semantics, Observability, Reliability and Diversity of Concept Detectors for Video Search"*, ACM Multimedia 2008, Vancouver, Canada.
- Sep. 2007 **Oral Presentation**, *"Ontology-Enriched Semantic Space"*, ACM Multimedia 2007, Augsburg, Germany.
- Aug. 2005 **Invited Talk**, *"Recent Advances in Multibiometrics"*, Southwest Jiaotong University, Chengdu, China.

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## Professional Service

Reviewer IEEE Trans. on Multimedia, IEEE Trans. on Image Processing, ACM MM'07, ACM MM'08, ACM MM'09, CIVR'07, CIVR'08, CIVR'09, ICME'08, PCM'08

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## Technical Skills

Statistics SPSS 15.0 for windows  
Languages Visual C++, C#, Java, Javascript, ASP, JSP, PHP, Matlab, HTML  
Software UML, Rational Rose/XDE  
Architecture  
Database MS SQL Server, Access, MySql  
Web application Dreamweaver, Visual Studio with ASP.net  
OS Unix/Linux, Windows  
**Certificate** Certificated Software Engineer, Approved & Issued by Ministry of Information Industry of China since 2000

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## Language Skills

**Mandarin**, Native Speaker

**English**, Fluent

**Cantonese**, Fluent

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## Hobbies

Tai Chi, Painting, Photography, Music, Table Tennis

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## References

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### **Dan Xu**

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