

EDWARD HUNG

Department of Computing
Hong Kong Polytechnic University
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POSITION HELD

Assistant Professor, Department of Computing, Hong Kong Polytechnic University, since May 2005

EDUCATION

University of Maryland, College Park, Ph.D., Computer Science, May 2005

- Dissertation title: *Managing Probabilities and Ontologies in Databases*
- Advisor: V.S. Subrahmanian

University of Maryland, College Park, M.S., Computer Science, May 2002 (GPA: 4.0/4.0)

University of Hong Kong, M.Phil., Computer Science, 2000 (GPA: 4.0/4.0)

- Thesis title: *Data Cube System Design: An Optimization Problem*
- Supervisor: David W. Cheung

University of Hong Kong, B.Eng., First Class Honor in Computer Engineering, 1998 (GPA: 3.87/4.0)

RESEARCH PROJECTS

Data Mining

Privacy-preserving and Outsourcing Data Mining, since 7/2005

- introduced methods for preserving privacy of databases and association rules while the rule-mining process is outsourced.
- *One journal article published in the Proceedings of the VLDB Endowment (PVLDB)*
- *One paper published in the 35th International Conference on Very Large Data Bases (VLDB), one paper published in the 33rd International Conference on Very Large Data Bases (VLDB), one paper published in the 12th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2008)*

Probabilistic Data Mining, since 6/2005

- introduced efficient methods for computing expected distances between uncertain objects, and for mining association rules in probabilistic databases
- *One journal article published in Computational Intelligence*
- *One paper published in 2008 IEEE First Pacific-Asia Workshop on Web Mining and Web-based Application 2008 (WMWA '08), one paper published in 2007 IEEE Symposium on Computational Intelligence and Data Mining (CIDM), one paper published in the 11th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2007)*

RESEARCH PROJECTS (continued)

Outlier Detection, since 11/2007

- Introduced two techniques (faster cutoff update and space utilization after pruning) to improve the speed of outlier detection to about 1.4 to 2.3 times of original algorithm
- *One paper published in the 13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2009)*
- *One journal article submitted*

Decision-cluster Tree Classification, since 9/2007

- introduced a automatic framework to generate a decision-cluster tree model for classification of high dimensional large data sets with multiple classes
- *One paper published in the Twenty-First Australasian Joint Conference on Artificial Intelligence 2008*
- *One conference paper published in the 1st Asian Conference on Machine Learning (ACML'09)*

Clustering Web-Search Results, 7/2007-5/2008

- introduced a transduction-based relevance model for more efficient clustering of web-search results
- *One paper published in 2008 IEEE First Pacific-Asia Workshop on Web Mining and Web-based Application 2008 (WMWA'08)*

Semantic Matchmaking in Social Networking System, since 6/2006

- Collaborating with IBM T.J. Watson Research Center
- One CERG grant received (2007)

PNL: Parallel Mining of Outliers in Large Database, 7/1998-9/1999

- introduced a more efficient version (ENL) and its parallel version (PNL) of the Nested-Loop (NL) algorithm
- verified the improvement of performance in PNL to be linear to the number of processors by theoretical analysis and experimental evaluation
- *One paper published in International Database Conference (IDC) 1999, one article published in Distributed and Parallel Database (DAPD) 2002.*

XML and Uncertainty

PXML, PIXML: Probabilistic Semistructured Database, 8/2001-7/2004

- proposed an approach to incorporate probabilistic information into XML databases
- provided two alternative formal model-theoretic semantics and developed an extension of the relational algebra to handle it
- described efficient algorithms for answering queries that use this algebra
- provided two semantics to directly manipulate aggregations on PXML instances
- implemented a prototype and conducted experiments which validate the utility of this approach
- proposed PIXML model, an extension of the PXML model, to support interval probabilities
- *Two papers published in International Conference on Data Engineering (ICDE) 2003 and International Conference on Database Theory (ICDT) 2003, one article published in ACM Transactions on Computational Logic (TOCL).*
- *One book chapter published in Managing and Mining Uncertain Data*

RESEARCH PROJECTS (continued)

Improving Query Recall by Ontologies, Similarity and Uncertainty

TOSS: An Extension of TAX with Ontologies and Similarity Queries, 9/2003-3/2004

- introduced the use of ontology and similarity measures to extend TAX (Tree Algebra for XML) to take into account, the semantics of terms in an XML database in order to improve the recall rate and quality of query answers
- experimentally evaluated the TOSS system on the DBLP and SIGMOD bibliographic databases and showed that TOSS provides high quality answers with good scalability
- *One paper published in ACM SIGMOD International Conference on Management of Data 2004.*

Improving Query Recall by Probabilistic Ontologies, 9/2004-8/2005

- suggested the use of probabilistic answers (answers that have high probabilities over a specific threshold)
- experimentally showed that they could improve the recall of database queries
- *One paper published in OTM Confederated International Conferences (CoopIS, DOA, and ODBASE) 2005*

Web Ontology and View Management

RDF View Maintenance and Aggregation, 2/2004-11/2004

- proposed an algorithm to compute answers to aggregate queries over RDF databases and algorithms to maintain views with and without those aggregates when an RDF database is updated
- developed a prototype to experimentally show that the proposed algorithms that operate directly on the RDF representation exhibit significantly superior performance compared with the naive approach of storing RDF data in a relational database and using standard view maintenance algorithms
- *One paper published in International Conference on Data Engineering (ICDE) 2005*

Data Warehousing

Data Cube System Design: An Optimization Problem, 11/98-5/2001

- proposed the following optimization problem in data cube system design: optimize a given set of cubes such that a maximum number of queries can be answered with the maintenance-cost bound and query-cost bound satisfied
- proposed approximate algorithms in two-phase approach to this NP-hard problem
- implemented a prototype to verify the performance which shows that it can find near-optimal solution much more efficiently
- *One paper published in Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2000, one article published in Journal of Intelligent Information Systems (JIIS) 2004*

RESEARCH PROJECTS (continued)

E-Commerce and User Interface

Establishing Trust among Online Customers, 2/2001-9/2001

- Studied which features that appear on commercial websites are trust-inducing, where the experiment results and the survey support the belief that specific customer service commitments, third party testimonials and graphic security representations are important in establishing strategic trust among on-line customers
- *One book chapter published in E-Service: New Directions in Theory and Practice.*

RESEARCH EXPERIENCE

Assistant Professor, Department of Computing, Hong Kong Polytechnic University, Hong Kong, since 5/2005

- Conducted research on privacy-preserving data mining, outsourcing data mining and web mining, probabilistic data mining, outlier detection, classification, semantic matchmaking, social networking system; part of work published in *ACM Transactions on Computational Logic (TOCL)*, *the Proceedings of the VLDB Endowment (PVLDB)*, *Computational Intelligence Journal*, *International Conference on Very Large Data Bases (VLDB) 2007, 2009*, *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2007, 2008, 2009*, *the 1st Asian Conference on Machine Learning (ACML'09)*, *the Twenty-First Australasian Joint Conference on Artificial Intelligence*, *IEEE Symposium on Computational Intelligence and Data Mining (CIDM) 2007*, *OTM Confederated International Conferences (CoopIS, DOA, and ODBASE) 2005, 2008 IEEE First Pacific-Asia Workshop on Web Mining and Web-based Application 2008 (WMWA'08)*, a book chapter in *Managing and Mining Uncertain Data*; part of work submitted to *international conferences and journals*

Graduate Research Assistant, Ph.D. Candidate, Department of Computer Science, University of Maryland, College Park, 8/2003 – 5/2005.

- Conducted research on probabilistic ontologies, distributed view management, database security, RDF materialized view maintenance and aggregates, query recall improvement by similarity measures, ontologies and uncertainty, managing uncertainty and aggregates in XML; part of work published in *ACM SIGMOD International Conference on Management of Data 2004*, *International Conference on Data Engineering (ICDE) 2005*
- Implemented in JAVA a prototype to maintain views of aggregate and non-aggregate RDF queries to analyze the performance of a set of novel view maintenance algorithms.

Ph.D student, Department of Computer Science, University of Maryland, College Park, supported by Croucher Foundation Scholarships, 8/2000-7/2003.

- Conducted research on managing uncertainty and aggregates in XML, E-commerce, email mining, [web interface usability](#), testing of database applications, etc.; part of work published in *International Conference on Data Engineering (ICDE) 2003*, *International Conference on Database Theory (ICDT) 2003* and a book chapter in *E-Service: New Directions in Theory and Practice*.
- Implemented in C a prototype to analyze query performance in managing uncertainty and aggregates in an XML system; implemented in C and LISP a system to induce Procmail recipes from classified emails using various machine learning methods; implemented in C a system to test database applications; implemented in JAVA a client-server database system; implemented in Visual Basic a map database system; implemented in C and Matlab neural networks

M.Phil. student, Department of Computer Science and Information Systems, the University of Hong Kong, supported by Postgraduate Studentships, 9/1998-7/2000.

- Research on parallel data mining of outliers, data cube system design in data warehousing; work published in *Journal of Intelligent Information Systems (JIIS) 2004*, *Distributed and Parallel Database (DAPD) 2002*, *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2000* and *International Database Conference (IDC) 1999*, and submitted to *Journal of Intelligent Information Systems (JIIS)* (see publication list).
- Implemented in C a system to optimize data cubes; implemented in MPI C a parallel

system to detect outliers in databases.

Student Research Assistant, Department of Computer Science and Information Systems, the University of Hong Kong, 7/1998-8/1998.

- Research on clustering, OLAP and mining of outliers.

TEACHING EXPERIENCE

Assistant Professor, Department of Computing, Hong Kong Polytechnic University, since 5/2005.

- Courses:
 - COMP5111 Database System and Management (Semester 1, 2005-2006; Semester 1, 2006-2007; Semester 1, 2007-2008; Semester 2, 2007-2008; two classes in Semester 1, 2008-2009)
 - COMP440 Customer Relationship Management (Semester 2, 2006-2007; Semester 2, 2007-2008; Semester 2, 2008-2009)
 - COMP5538 Customer Relationship Management and Technology (Semester 2, 2005-2006, regular mode; Summer Semester, 2005-2006, CyberU mode)
 - COMP305 Data Structures and Algorithms (Semester 1, 2006-2007)
- Conducted lectures, tutorials, designed written assignments, quizzes and exams, graded quizzes and exams, supervised and graded projects

Demonstrator (Teaching Assistant), Department of Computer Science and Information Systems, the University of Hong Kong, 9/1998-6/2000.

- Courses: Principles of Database Management Systems, Software Project Management
- Assisted teaching, gave tutorials, designed and graded written and programming assignments

TEACHING TRAINING

- Certificate of Attendance of the following courses:
 - Item Analysis: What is it and Why do we do it?
 - Interpreting Item Analysis Results
 - How to Review MCQs and Eliminate Item Writing Flaws
 - Copy Them Right: The Lawful Ways to Use Copyright Materials in Teaching and Learning
 - E3Learning Tools: Showcasing and Test Driving
 - Exploring Problems that Arise in Class
 - Plagiarism: Policy & Prevention at PolyU
 - Teaching Portfolios: Getting Started
- Certificate of Accomplishment of teaching course *Introduction to University Teaching (Level 2: The Teaching and Learning Process)*, Educational Development Centre, Hong Kong Polytechnic University, Semester 1, 2005-2006
- Course Certificate of *Assessment (Setting Criteria and Standards for Assessing Students by Project Work and Dissertation)*, Educational Development Centre, Hong Kong Polytechnic University, Nov 2005
- Course Certificate of *Assessing Students' Generic Competencies in the Professional Context*, Educational Development Centre, Hong Kong Polytechnic University, Oct 2005
- Course Certificate of *Introduction to University Teaching (Level 1: Preparing to Teach)*, Educational Development Centre, Hong Kong Polytechnic University, Semester 1, 2005-2006
- Certificate of *Faculty Research Forum on the theme "Intergroup Dialogue as Pedagogy Across the Curriculum"*, Center for Teaching Excellence's Undergraduate Teaching and Learning Program, the University of Maryland, College Park, Spring 2004

STUDENT SUPERVISION

- Ms. Li Yan, *Ph.D student*, since Sep 2006 (half year deferred in between due to child birth)
- Mr. Szeto Chi Cheong, *Ph.D student*, since Sep 2008
- Ms Xu Lei, *Ph.D student*, since Jul 2009
- Chan Wing San, Cheng Yi Kin, Cheong Wing Sze, Ko Chung Yee Ivy, Shek Wing Yan, Tang Kat Yu, Ko Chun Hin, Lai Tsz Kit, Law Kam Kuen, Ng Nga Nam, Wong Chung Wing, *Final Year Project students*, 2009/10.
- Lam Nga Man, Man Pui Yee, Li Kin Ling, Wong Tze Yan Fiona, Yu Chun Kit, *Final Year Project students*, 2008/09.
- Wong Kam Hei, Chan Chai Hong, Kwan Ka Ki, Lau Him Yee, Leung Kwok Ying, Tang Hoi Ho, *Final Year Project students*, 2007/08.
- Chan Hiu Kwan, Lui Fung Yu, Poon Siu Wai, Yeung Ka Yee, Lam Kit, Cu Wan Lok, Lau Tak Yung, Tong Wai Yee, Wong Ho Ping, *Final Year Project students*, 2006/07.

GRANTS RECEIVED

GRF (previously CERG) 2009-2010

RGC Reference: PolyU 5191/09E

Project Account Code:

Project title: Approximation of probabilistic distance distribution on uncertain data and its application in outlier detection

Amount: HK\$448,791

Additional grant from Central Research Grant: HK\$

Period: Jan 2010 – Dec 2012 (not extended yet)

Internal Competitive Research Grants 2008-2009

Project Account Code: 1-ZV5P

Project title: Design and Generation of a Decision Cluster Classification Method

Amount: HK\$100,000

Period: Nov 1, 2009 – Oct 31, 2011 (not extended yet)

Internal Grant for Proposals Rated 3.5 in CERG 2008-2009

Project Account Code: A-SA14

Project title: Approximation of Probabilistic Distance Distribution on Uncertain Data and Its Application in Outlier Detection

Amount: HK\$150,000

Period: Jun 1, 2009 – May 31, 2011 (not extended yet)

Internal Competitive Research Grants 2007-2008

Project Account Code: G-U524

Project title: Clustering Web-Search Results

Amount: HK\$80,000

Period: May 1, 2008 – Apr 30, 2010 (not extended yet)

GRF (previously CERG) 2007-2008
RGC Reference: PolyU 5174/07E
Project Account Code: B-Q05W
Project title: Development of Enhanced Probabilistic Ontology (EPO) Model and EPO-Based Semantic Matching for Matching User Profiles
Amount: HK\$369,600
Additional grant from Central Research Grant: HK\$30,000
Period: Jan 1, 2008 – Jun 30, 2010

Internal Competitive Research Grants 2006-2007
Project Account Code: A-PH40
Project title: Distance Representation Modeling for Uncertain Objects
Amount: HK\$120,000
Period: Jul 1, 2007 – Apr 30, 2010

Internal Grant for Proposals Rated 3.5 in CERG 2006-2007
Project Account Code: A-PA5S
Project title: Data Mining on Uncertain Data
Amount: HK\$150,000
Period: May 1, 2007 – Apr 30, 2010

Internal Competitive Research Grants 2005-2006
Project Account Code: A-PH10
Project title: Probabilistic Outlier Detection on Uncertain Data
Amount: HK\$120,000
Period: Aug 1, 2006 – Apr 30, 2008

ACADEMIC ACTIVITIES

Editorial Review Board Member

- International Journal of Systems and Service-Oriented Engineering (IJSSOE)

Conference Program Committee Members

- 2010
 - The Fifth International Conference on Internet and Web Applications and Services (ICIW)
 - The Second International Conference on Advances in Databases, Knowledge, and Data Applications (DBKDA)
 - The 2nd International workshop on Defense against Spam in Electronic Communication (DaSECo'10) (DEXA'10 workshop)
- 2009
 - The 18th ACM Conference on Information and Knowledge Management (CIKM 2009)
 - The Third International Conference on Scalable Uncertainty Management (SUM)

- The 8th International Conference on Machine Learning and Cybernetics (ICMLC)
- The Fourth International Conference on Internet and Web Applications and Services (ICIW)
- The First International Conference on Advances in Databases (DB 2009)
- IADIS European Conference on Data Mining (ECDM)
- The 3rd International Workshop on Service-Oriented Knowledge Management (SOKM'09) (in conjunction with ICEBE 2009)
- The First Workshop on Management and mining of UNcertain Data (MOUND 2009) (ICDE workshop)
- International Workshop on Mobile Business Collaboration (MBC'09) (DASFAA workshop)
- 2008
 - The Second International Conference on Scalable Uncertainty Management (SUM)
 - The 7th International Conference on Machine Learning and Cybernetics (ICMLC)
 - IADIS European Conference on Data Mining (ECDM)
 - International Workshop on Social and Legal Aspects under Emerging Computing Environments (SLAECE) (ICIW workshop)
 - International Workshop on Electronic Service Marketing (ESM 2008) (SCC Workshop)
- 2007
 - The First International Conference on Scalable Uncertainty Management (SUM)
 - The 6th International Conference on Machine Learning and Cybernetics (ICMLC)
 - IADIS European Conference on Data Mining (ECDM)
 - The 1st Workshop on Data Mining of Uncertain Data (DUNE 2007) (ICDM workshop)
 - The International Workshop on Service-Oriented Knowledge Management (SOKM) (ICEBE workshop)
- 2006
 - International Conference on Ontologies, Databases and Application of Semantics (ODBASE)
 - International Conference on Web-Age Information Management (WAIM)

Journal Reviewers

- 2009
 - ACM Transactions on Database Systems (TODS)
 - IEEE Transactions on Knowledge and Data Engineering (TKDE)
 - VLDB Journal
 - Knowledge and Information Systems (KAIS)
 - Soft Computing
 - International Journal of Computer Systems Science and Engineering (IJCSSE)
- 2008
 - VLDB Journal
 - IEEE Transactions on Knowledge and Data Engineering (TKDE)
 - Knowledge and Information Systems (KAIS)
 - International Journal of Business Intelligence and Data Mining (IJBIDM)
 - Service Oriented Computing and Applications
- 2007
 - IEEE Transactions on Knowledge and Data Engineering (TKDE)
 - Computational Intelligence

- Knowledge and Information Systems (KAIS)
- International Journal of Business Process Integration and Management
- 2006
 - Knowledge and Information Systems (KAIS)
 - Special Issue on “Data Management” of the Journal of Computer Science and Technology (published by Springer Science + Business Media)
- 2005
 - IEEE Transactions on Knowledge and Data Engineering (TKDE)
 - Knowledge and Information Systems (KAIS)
 - Data & Knowledge Engineering (DKE) Journal
 - Software: Practice and Experience (SPE)
- Information Processing Letters (IPL), 2000

Others

- Reviewer, Handbook of Research on Service Intelligence and Service Science (SISS), 2009.
- Reviewer, Special Session on Ontology Methodologies and Applications (OMA) at the 5th International Conference on Natural Computation (ICNC'09) & the 6th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD'09) ICNC'09 & FSKD'09, 2009
- Reviewer, the 24th Annual ACM Symposium on Applied Computing, 2009
- Reviewer, the 23rd Annual ACM Symposium on Applied Computing, 2008
- Reviewer, International Conference Information Technology and Management (ICITM) 2006, Hong Kong, 2007
- External Reviewer, CERG proposals, Research Grants Council, Hong Kong SAR Government, Hong Kong, 2005-2006
- Reviewer, the IEEE International Conference on Data Mining (ICDM), Hong Kong, 2006
- Reviewer, 7th ACM Postgraduate Research Day, Hong Kong, 2006

SERVICES

Session Chair, “Session 5C: Recommendation and Rating Systems”, *the 13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2009

Final Year Project Quality Assurance Panel Member, Department of Computing, Hong Kong Polytechnic University, 2005-2009

Interview panel member of JUPAS applications, Department of Computing, Hong Kong Polytechnic University, 2006, 2007, 2008, 2009

External examiner of Ph.D. candidate, Ngai Wang Kay, Department of Computer Science, University of Hong Kong, 2009

External examiner of M.Phil. candidate, Chui Chun Kit, Department of Computer Science, University of Hong Kong, 2007

Judge of Finals of the IT Debate 2006, the 18th Hong Kong Joint School Electronics and Computer Exhibition, organized by Hong Kong Joint School Electronics and Computer Society, Aug 23, 2006

Judge of IT 狀元爭霸戰 (IT competition for secondary school students), co-organized by PC Weekly, OGCIO, and Department of Computing at Hong Kong Polytechnic University, May 28, 2006

AWARDS/HONORS/SCHOLARSHIPS (since 1997)

Jacob K. Goldhaber Travel Grant Award, University of Maryland, College Park (2005)

Travel Grant, Department of Computer Science, University of Maryland, College Park (2004)

Membership in the Honor Society of Phi Kappa Phi (since 2002)

Croucher Foundation Scholarships, Croucher Foundation (2000-2003)

- Fewer than *ten* new awardees in Hong Kong every year.

Fellowships, Department of Computer Science, University of Maryland, College Park (2000-2002)

Dr. Lo Kwee Seong Education Foundation Travel and Conference Grants, the University of Hong Kong (2000)

Conference Grants, Committee on Research and Conference Grants, the University of Hong Kong (2000)

Hung Hing Ying Scholarship, the University of Hong Kong (1999-2000)

- Fewer than *ten* awardees every year.

Epson Foundation Scholarship, Epson Foundation (1999-2000)

Postgraduate Studentships, the University of Hong Kong (1998-2000)

Swire Scholarships, the University of Hong Kong (1998-2000)

- Fewer than *four* new awardees every year.

The Hong Kong and China Gas Company Limited Postgraduate Scholarship, Hong Kong and China Gas Company Limited and the University of Hong Kong (1998-1999)

- *One* awardee every year.

Stephen Kam-Chuen Cheong Memorial Scholarships, Stephen Kam-Chuen Cheong Memorial Education Fund (1995-1998)

- About *five* new awardees every year.

Dean's Honors List, Faculty of Engineering, the University of Hong Kong (1995-1998)

- Fewer than *one tenth* of all students were awarded.

The Hong Kong Institution of Engineers Student Prize, Hong Kong Institution of Engineers (1996-1997)

- Fewer than *five* awardees in Hong Kong every year.

Tsinghua University Industrial Training Excellent Student Certificate, Tsinghua University (Beijing, China) and the University of Hong Kong (1997)

PROFESSIONAL AND HONOR SOCIETY MEMBERSHIPS (since 1999)

The Honor Society of Phi Kappa Phi, USA. Member.

Swire Scholars Association, Hong Kong. Alumni (Swire Scholar)

- Members comprise all scholars who received the Swire Scholarships in Hong Kong.

ACADEMIC PRESENTATIONS

Speaker in the 2007 Database Workshop, University of Hong Kong, Hong Kong (May 31, 2007)

Speaker in the 2007 IEEE Symposium on Computational Intelligence and Data Mining (**CIDM**), Honolulu, Hawaii, USA, for the research paper of "An Efficient Distance Calculation Method for Uncertain Objects" (April 1-5, 2007)

Invited speaker in seminar, Department of Computer Science, Nanjing University, China (Dec 20, 2006)

Speaker in the 21st International Conference on Data Engineering (**ICDE**), Tokyo, Japan for the research paper of "RDF Aggregate Queries and Views" (April 5-8, 2005)

Speaker in the 23rd **ACM SIGMOD** International Conference on Management of Data, Paris, France for the research paper of "TOSS: An Extension of TAX with Ontologies and Similarity Queries" (June 13-18, 2004)

Invited speaker in Database Seminar, Department of Computer Science and Information Systems, the University of Hong Kong (June 30, 2003)

Speaker in the 19th International Conference on Data Engineering (**ICDE**), Bangalore, India for the research paper of "PXML: A Probabilistic Semistructured Data Model and Algebra" (March 5-8, 2003)

Speaker in the Ninth International Conference on Database Theory (**ICDT**), Siena, Italy for the research paper of "Probabilistic Interval XML" (January 8-10, 2003)

Invited speaker in Database Seminar, Department of Computer Science and Information Systems, the University of Hong Kong (August 13, 2002)

Invited speaker in Uncertain Reasoning Seminar, Department of Computer Science, University of

Kentucky, Lexington, Kentucky, USA (April 22, 2002)

Speaker in the Fourth Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD-2000**), Kyoto, Japan, for the research paper of "An Optimization Problem in Data Cube System Design"(April 18-20, 2000)

Speaker in the Ninth International Database Conference (**IDC'99**), Hong Kong, for the research paper of "Parallel Algorithm for Mining Outliers in Large Database" (July 15-17, 1999)

LANGUAGES

Fluent in English (written and spoken), native in Chinese (written Chinese, Cantonese and Mandarin).

PUBLICATIONS

Refereed Journal Articles

1. Edward Hung, Lurong Xiao and Regant Y.S. Hung, "[An Efficient Representation Model of Distance Distribution Between Uncertain Objects](#)", to appear in *Computational Intelligence*.
2. Wai Kit Wong, David W. Cheung, Edward Hung, Ben Kao, Nikos Mamoulis, "[An Audit Environment for Outsourcing of Frequent Itemset Mining](#)", to appear in *the Proceedings of the VLDB Endowment (PVLDB)*, Vol. 2, issue 1, 2009.
3. Edward Hung, Lise Getoor, V.S. Subrahmanian, "[Probabilistic Interval XML](#)", in *ACM Transactions on Computational Logic (TOCL)*, Volume 8, Issue 4, Article 24, pages 1-38, Aug 2007.
4. Edward Hung, David W. Cheung, Ben Kao, "[Optimization in Data Cube System Design](#)", in *Journal of Intelligent Information Systems (JIIS)*, Kluwer Academic Publishers, Volume 23, Issue 1, pages 17-45, July 2004.
5. Edward Hung, David W. Cheung, "[Parallel Mining of Outliers in Large Database](#)", in *Distributed and Parallel Database (DAPD)*, Kluwer Academic Publishers, Volume 12, Issue 1, pages 5-26, July 2002.

Refereed Conference Papers

1. Yan Li, Edward Hung, "[Building A Decision Cluster Forest Model to Classify High Dimensional Data with Multi-classes](#)", to appear in *Proceedings of The 1st Asian Conference on Machine Learning (ACML'09)*, Nanjing, China, November 2-4, 2009. (acceptance rate = $29 / 113 = 25.7\%$)
2. Wai Kit Wong, David Wai Lok Cheung, Edward Hung, Ben Kao, Nikos Mamoulis, "[An Audit Environment for Outsourcing of Frequent Itemset Mining](#)", to appear in *Proceedings of the 35th International Conference on Very Large Data Bases (VLDB)*, Lyon, France, August 24-28, 2009.
3. Chi Cheong Szeto and Edward Hung, "[Mining Outliers with Faster Cutoff Update and Space Utilization](#)", in the *Proceedings of the 13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2009)*, Bangkok, Thailand, April 27-30, 2009. (Lecture Notes in Computer Science 5476:823-830 Springer, 2009) (acceptance rate = 33% of 338 submissions)
4. Yan Li, Edward Hung, Korris Chung, Joshua Huang, "[Building A Decision Cluster Classification Model for High Dimensional Data by A Variable Weighting k-Means Method](#)", in the *Proceedings of the Twenty-First Australasian Joint Conference on Artificial Intelligence*, pages 337-347, Auckland, December 1-5, 2008. (acceptance rate = $42/143 = 29\%$)

5. Wai Kit Wong, David W. Cheung, Edward Hung, and Huan Liu, "[Protecting Privacy in Incremental Maintenance for Distributed Association Rule Mining](#)", in the *Proceedings of the 12th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2008)*, Osaka, Japan, May 20-23, 2008. (Lecture Notes in Computer Science 5012:381-392, Springer 2008) (acceptance rate = 12% of 312 submissions)
6. Edward Hung and Lurong Xiao, "[An Efficient Representation Model of Distance Distribution Between Two Uncertain Objects](#)", in *Proceedings of IEEE First Pacific-Asia Workshop on Web Mining and Web-based Application 2008 (WMWA'08)*, in conjunction with the 12th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2008), pages 221-230, Osaka, Japan, May 20, 2008.
7. Lurong Xiao and Edward Hung, "[Clustering Web-Search Results Using Transduction-Based Relevance Model](#)", in *Proceedings of IEEE First Pacific-Asia Workshop on Web Mining and Web-based Application 2008 (WMWA'08)*, in conjunction with the 12th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2008), pages 169-180, Osaka, Japan, May 20, 2008.
8. Wai Kit Wong, David W. Cheung, Edward Hung, Ben Kao, Nikos Mamoulis, "[Security in Outsourcing of Association Rule Mining](#)", in the *Proceedings of the 33rd International Conference on Very Large Data Bases (VLDB)*, pages 111-122, University of Vienna, Austria, Sep 23-28 2007. (acceptance rate = $45/275 = 16.4\%$)
9. Chun-Kit Chui, Ben Kao, Edward Hung, "[Mining Frequent Itemsets from Uncertain Data](#)", in the *Proceedings of the 11th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2007)*, Nanjing, China, May 22-25, 2007. (Lecture Notes in Computer Science 4426:47-58, Springer 2007) (acceptance rate = $34/730 = 4.66\%$)
10. Lurong Xiao, Edward Hung, "[An Efficient Distance Calculation Method for Uncertain Objects](#)", in the *Proceedings of 2007 IEEE Symposium on Computational Intelligence and Data Mining (CIDM)*, pages 10-17, Honolulu, Hawaii, USA, April 1-5, 2007.
11. Octavian Udrea, Yu Deng, Edward Hung, V.S. Subrahmanian, "[Probabilistic Ontologies and Relational Databases](#)", in the *Proceedings of the OTM Confederated International Conferences (CoopIS, DOA, and ODBASE) 2005*, Agia Napa, Cyprus, Oct 31 - Nov 4, 2005. Keynote Paper. (Lecture Notes in Computer Science 3760:1-17, 2005)
12. Edward Hung, Yu Deng, V.S. Subrahmanian, "[RDF Aggregate Queries and Views](#)", in the *Proceedings of the 21st International Conference on Data Engineering (ICDE)*, pages 717-728, Tokyo, Japan, April 5-8, 2005. (acceptance rate = $67/521 = 13\%$)
13. Edward Hung, Yu Deng, V.S. Subrahmanian, "[TOSS: An Extension of TAX with Ontologies and Similarity Queries](#)", in the *Proceedings of the 23rd ACM SIGMOD International Conference on Management of Data*, Paris, France, pages 719-730, June 13-18, 2004.

(acceptance rate = $69/431 = 16\%$)

14. Edward Hung, Lise Getoor, V.S. Subrahmanian, "[PXML: A Probabilistic Semistructured Data Model and Algebra](#)", in the *Proceedings of the 19th International Conference on Data Engineering (ICDE)*, Bangalore, India, pages 467-478, March 5-8, 2003. (acceptance rate = $51/378 = 13\%$)
15. Edward Hung, Lise Getoor, V.S. Subrahmanian, "[Probabilistic Interval XML](#)", in the *Proceedings of the Ninth International Conference on Database Theory (ICDT)*, Siena, Italy, January 8-10, 2003 (Lecture Notes in Computer Science 2572: 361-377, 2003). (acceptance rate = $26/91 = 29\%$)
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