

Ming Li

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Objective

Fulltime Position in Computer Science and Management Inf. Systems

Education

(2007 – Present) PhD Candidate in Computer Science (expected to be finished in 2009)

(2004 – 2007) Master Degree in Computer Science GPA: 3.9

Department of Computer Science, Worcester Polytechnic Institute, Massachusetts, USA

- Master Thesis Topic: Semantic Query Optimization for XML Stream Processing

(1999 – 2003) Bachelor Degree in Computer Science GPA: 3.5

Department of Computer Science, Fudan University, Shanghai, China

- Bachelor Thesis Topic: XML Searching and Clustering System based on Bitmap Index

Skills

- Programming: Java, SQL, Prolog, C++, JET, GWT, Servlets, Jena, DB2, MySQL, Eclipse, Rational
- Design / Modeling: UML, Design Patterns, Ontology, Protégé, Eclipse Modeling Framework, SOA
- XML / Event: XML Data Persistence and Query Processing, Complex Event Stream Processing
- Business Informatics: Master Data Management (MDM), Business Activity Monitoring and Process Management (BAM, BPM), Enterprise Performance Management (EPM), Information Sensemaking

Industrial Experience

(2008.5 – Present) Research Intern SAP Research Center, Palo Alto CA, USA

Group: Continuous Information Sensemaking

- Situation Sensemaking in Enterprise Performance Management: Design and implementation of the situation tracker for SAP's continuous information sensemaking prototype, highlighted with collecting and managing information dynamically based on the data / frame theory

(2007.5 – 2007.8) Research Intern IBM T. J. Watson Research Center, Yorktown Heights NY, USA

Group: Business Informatics

- Lightweight In-Memory Data Service in Business Process Management: Design and implementation of the in-memory data service layer in the business activity monitoring module, highlighted with the model-driven service code generation and in-memory indexing using multi-threading solution

(2006.7 – 2006.9) Software Engineering Intern IBM Software Group, Somers NY, USA

Group: Master Data Management

- XML-Based Data Storage in Master Data Management: Package development on supporting alternative data persistence mechanism for WebSphere Product Center master data using DB2 Viper

(2005.6) Software Engineering Intern Orient Overseas Container Software Group, Zhuhai, China

Group: Research and Development

- Shipment Reporting System: Discussion on the UI design

Academic Experience

(2004.1 - Present) Research Assistant

Database Systems Research Group, C.S. Dept., WPI

Advisors: Professor Murali Mani Co-Advisor: Professor Elke A. Rundensteiner

Topics: XML query processing and complex event stream processing

- (2006.10 – Present) EventT: Robust Query Processing over Event Streams

Outline: Several aspects of complex event processing have been studied – (1) Query processing over event streams with out-of-order data arrival and event stream with interval-based temporal semantics, (2) Constraint-aware pattern detection over event streams

- (2004.1 – 2007.12) Raindrop: A Query Engine for XML Data Processing

Outline: In the project (funded by *National Science Foundation*), I tackled several challenges of XML query processing – (1) Efficient data loading and processing, (2) Query evaluation for handling recursive XQuery, (3) Semantic query optimization for evaluating XQuery / XSLT with minimized memory footprint, (4) Runtime plan adaptation using dynamic embedded punctuations

(2001.6 - 2003.6) Lab Member

WebDB and XML Laboratory, C.S. Dept., Fudan University

Advisor: Professor Aoying Zhou Mentor: Dr. Zhengchuan Xu

Topics: XML data persistence and indexing

- (2002.1 – 2003.6) VXMLR: Visual XML-Relational Database System

Outline: I was involved into the study of two topics under the project – (1) A cost-based index selection scheme which adopts greedy algorithms optimizing a specified XPath workload under certain predefined disk space constraint, (2) Persistence and query processing mechanism by efficiently mapping XML documents into RDBs using XML key constraints

Publications

- (2009) M. Liu, M. Li, D. Golovnya, K. Claypool and E. A. Rundensteiner, Sequence Pattern Query Processing over Out-of-Order Event Streams, *ICDE '09*, Shanghai, China
- (2008) M. Li, M. Mani and E. A. Rundensteiner, Efficiently Loading and Evaluating XML Streams, *IDEAS '08*, Coimbra, Portugal
- (2008) M. Li, M. Mani and E. A. Rundensteiner, ELF: A Constraint-Aware XQuery Engine for Processing XML Stream with Minimized Memory Footprint, *ICSC '08*, Santa Clara CA, USA
- (2008) M. Li, M. Mani etc., Constraint-Aware XSLT Evaluation, *ER '08*, Barcelona, Spain
- (2008) M. Wei, M. Li etc., XML Stream Processing: Current Technologies and Open Challenges, Invited Book Chapter in *Open and Novel Issues in XML Database Applications*, IGI Global
- (2008) M. Li, M. Mani and E. A. Rundensteiner, Semantic Query Optimization for Processing XML Streams with Minimized Memory Footprint, *DataX at EDBT '08*, Nantes, France
- (2007) M. Li, M. Liu, L. Ding, E. A. Rundensteiner and M. Mani, Event Stream Processing with Out-of-Order Data Arrival, *DEPSA at ICDCS '07*, Toronto, Canada
- (2006) M. Wei, E. A. Rundensteiner, M. Mani and M. Li, Processing Recursive Query over XML Streams: The Raindrop Approach, *Data Knowledge Engineering 65(2)*
- (2006) S. Wang, H. Su, M. Li etc., R-SOX: Runtime Semantic Query Optimization over XML Streams, *VLDB '06*, Seoul, Korea
- (2006) M. Wei, M. Li, E. A. Rundensteiner and M. Mani, Processing Recursive XQuery over XML Streams: The Raindrop Approach, *XSDM at ICDE '06*, Atlanta GA, USA
- (2003) Z. Guo, Z. Xu, S. Zhou, A. Zhou and M. Li, Index Selection for Effective XML Path Expression Processing, *XSDM at ER '03*, Chicago IL, USA