

Li Ding, PhD



Research Scientist
Tetherless World Constellation
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Education

PhD in Computer Science, May, 2006

Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore County

Thesis: *Enhancing Semantic Web Data Access*

Advisor: Tim Finin

MS in Computer Science, June, 2001

Department of Computer Science and Technology, Peking University

Thesis: *Building Open Spatial Information Interoperation Framework in Semantic Web*

Advisor: Zhuoqun Xu

BS in Computer Science, June, 1998

Department of Computer Science and Technology, Peking University

Research Interests

Semantic Web; Linked Data; Information Sharing and Integration; Social Semantic Web; Ontology; Web Scale Computing; Intelligent Systems; Provenance, Privacy and Trust;

Employment

- Research Scientist (2007/04 - present) Tetherless World Constellation, Computer Science Department, Rensselaer Polytechnic Institute, Troy, NY, USA
 - [Transparent Accountable Datamining Initiative \(TAMI\)](#) -- [current] Creating technical, legal, and policy foundations for transparency and accountability in large-scale aggregation and reasoning across heterogeneous information systems. Phase 2 focuses on collaborative environment for physically distributed researchers to build ontology and evolve scenario metadata, and Semantic Web policies.
 - General Integrated Learning Architecture (GILA) -- [current] Using Semantic Web technology to support and explain multi-agent integrated learning system that learns plans from several examples. Phase 2 focuses on making system transparent to end user by explaining system behaviors and data flow.
 - [CSCI6966: Advanced Semantic Web](#) -- [current] Teaching the graduate level course with Jim Hendler.
 - [Inference Web](#) -- [current] Phase 2 focuses on provenance computing, e.g. "OWL Instance Data Evaluation" and provenance metadata analysis.
- Kodak Postdoctoral Fellow (2006/09 - 2007/03) Knowledge Systems, AI Laboratory (KSL), Computer

Science Department, Stanford University, Stanford, CA, USA

- Inference Web -- phase 1 focuses on designing new provenance ontology - PML2.
- Transparent Accountable Datamining Initiative (TAMI) -- Phase 1 focuses on provenance metadata modeling.
- General Integrated Learning Architecture (GILA) -- Phase 1 focuses on domain and inter-component communication ontology modeling.
- Cognitive Agent that Learns and Observes (CALO) -- [past] Apply Inference Web technology to explain a multi-agent learning system.
- DAML-Based Services, Document Templates and Query Answering -- [past] Build a search engine for answers encoded in Proof Markup Language (PML).
- Research Associate (2006/05 - 2006/07) eBiquity Group, Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore County, MD, USA
 - Swoogle -- Extend Swoogle study by characterizing Semantic Web data deployed on the Web using Swoogle data.
- Research Assistant (2002/09 - 2006/05) eBiquity Group, Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore County, MD, USA
 - [Swoogle](#) -- [past] Search and metadata for the Semantic Web. One of the first Semantic Web Metadata and Search Engines.
 - [SemDis](#) -- [past] Semantic Discovery: organizing and discovering complex relationships in Semantic Web
 - [International Trading Agent Competition](#) -- [past] Designed a balanced bidding software agent. Ranked 4th in TAC'02, 5th in TAC'03, 2nd in TAC SCM'04
- Teaching Assistant (2001/08 - 2002/07) Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore County, MD, USA
- Research Assistant (1997/03 - 2001/06) Spatial Information Group, Department of Computer Science and Technology, Peking University, Beijing, P.R.China
 - National Optial Fiber Cable Monitor System -- Architect of communication, UI and database components of the system, which is sponsored by Beijing Telecommunication Administration.
 - WebGIS -- Designed spatial information sharing mechanisms, including object-oriented data model, data storage schema, caching mechanism, and communication protocols.
 - GeoAgent -- Surveyed Microsoft's DCOM technology; developed a collaborative multi-agent system for fetching maps from distributed data sources.

Publications

Journal articles (9)

1. Mark Greaves and Li Ding and Jie Bao and Uldis Bojars, *Report of the AAAI 2009 Spring Symposium on Social Semantic Web: Where Web 2.0 Meets Web 3.0*, AI Magazine, vol. 30 (3) , pages 94, March, 2009.
2. Huajun Chen and Li Ding and Zhaohui Wu and Tong Yu and Lavanya Dhanapalan and Jake Y. Chen, *Semantic Web for Integrated Network Analysis in Biomedicine*, Briefings in Bioinformatics Advance, vol. 10 (2) , pages 177-192, March, 2009.
3. Boanerges Aleman-Meza and Meenakshi Nagarajan and Li Ding and Amit Sheth and I. Budak Arpinar and Anupam Joshi and Tim Finin, *Scalable semantic analytics on social networks for addressing the problem of conflict of interest detection*, ACM Transactions on the Web, vol. 2 (1) , February, 2008.
4. Tim Finin and Li Ding and Lina Zhou and Anupam Joshi, *Social Networking on the Semantic Web*, Learning Organization Journal, vol. 5 (12) , November, 2005.
5. Li Ding and Tim Finin and Anupam Joshi and Yun Peng and Rong Pan and Pavan Reddivari, *Search on the Semantic Web*, IEEE Computer, vol. 10 (38) , 2005.

6. Steffen Staab and Pedro Domingos and Peter Mika and Jennifer Golbeck and Li Ding and Timothy W. Finin and Anupam Joshi and Andrzej Nowak and Robin R. Vallacher, *Social Networks Applied*, IEEE Intelligent Systems, vol. 20 (1) , pages 80-93, 2005.
7. Yingwei Luo and Li Ding and Xiaolin Wang and Wenjun Wang and Zhuoqun Xu, *A Hierarchical Component-based WebGIS and Its Key Technologies*, Computers and Artificial Intelligence, vol. 24 (3) , 2005.
8. Li Ding and Xiaolin Wang and Yingwei Luo and Ying Zhang and Lei Qu and Zhuoqun Xu, *Survey on Distributed Spatial Information Management*, Journal of Image and Graphics, vol. 6 (11) , (in Chinese), pages 1101--1106, 2001.
9. Li Ding and Lei Qu and Ying Zhang and Yingwei Luo and Xiaolin Wang and Zhuoqun Xu, *Geo-Agents: Design and Implementation*, Journal of Wuhan University, vol. 6 (1-2) , pages 451--458, 2001.

Conferences Papers and Book Chapters (18)

1. Mathieu d'Aquin and Li Ding and Enrico Motta, *Semantic Web Search Engines: The Cases of Swoogle and Watson*, in Semantic Web handbook, 2010.
2. Jie Bao and Li Ding and Rui Huang and Paul Smart and Dave Braines and Gareth Jones, *A Semantic Wiki based Light-Weight Web Application Model*, in Proceedings of the 4th Asian Semantic Web Conference, pages 168-183, 2009.
3. Jie Bao and Li Ding and Paul R. Smart and Dave Braines and Gareth Jones , *Rule Modeling using Semantic MediaWiki*, in Proceedings of the 2nd Annual Conference of the International Technology Alliance, July, 2009.
4. Xiaoqin (Shelley) Zhang and Sungwook Yoon and Phillip DiBona and Darren Scott Appling and Li Ding and Janardhan Rao Doppa and Derek Greeny and Jinhong K. Guo and Ugur Kuter and Geoff Levine and Reid L. MacTavish and Daniel McFarlane and James Michaelis and Hala Mostafa and Santiago Ontanon and Charles Parker and Jainarayan Radhakrishnan and Anton Rebgunsy and Bhavesh Shrestha and Zhexuan Song and Ethan B. Trehwitt and Huzaifa Zafar and Chongjie Zhang and Daniel Corkill and Gerald DeJong and Thomas G. Dietterich and Subbarao Kambhampati and Victor Lesser and Deborah L. McGuinness and Ashwin Ram and Diana Spearsy and Prasad Tadepalli and Elizabeth T. Whitaker and Weng-Keen Wong and James A. Hendler and Martin O. Hofmann and Kenneth Whitebread, *An Ensemble Learning and Problem Solving Architecture for Airspace Management*, in Proceedings of the 21st Innovative Applications of Artificial Intelligence Conference (IAAI2009) , July, 2009.
5. Li Ding and K Krasnow Waterman and Jie Bao and Lalana Kagal and Deborah L. McGuinness, *Towards a Semantic Web Testbed for Collaborative Policy Development*, in Proceedings of the WebSci'09: Society On-Line, March, 2009.
6. Jiao Tao and Li Ding and Deborah L. McGuinness, *Instance Data Evaluation for Semantic Web-Based Knowledge Management Systems*, in Proceedings of the 42th International Conference on System Sciences (HICSS42), Jan, 2009.
7. Deborah L. McGuinness and Vasco Furtado and Paulo Pinheiro da Silva and Li Ding and Alyssa Glass and Cynthia Chang, *Explaining Semantic Web Applications*, in Semantic Web Engineering in the Knowledge Society, Information Science Reference, (chapter 1), 2008.
8. Paulo Pinheiro da Silva and Deborah McGuinness and Li Ding and Nicholas Del Rio, *Inference Web in Action: Lightweight Use of Proof Markup Language*, in Proceedings of the 7th International Semantic Web Conference (ISWC'08), Oct, 2008.
9. Li Ding and Pranam Kolari and Zhongli Ding and Sasikanth Avancha, *Using Ontologies in the Semantic Web: A Survey*, in Ontologies: A Handbook of Principles, Concepts and Applications in Information Systems, Springer, 2006.
10. Li Ding and Tim Finin, *Characterizing the Semantic Web on the Web*, in Proceedings of the 5th ISWC, November, 2006.
11. Honglei Zeng and Maher Alhossaini and Li Ding and Richard Fikes and Deborah L. McGuinness,

- Computing Trust from Revision History*, in Proceedings of the 4th International Conference on Privacy, Security and Trust, October, 2006.
12. Boanerges Aleman-Meza and Meenakshi Nagarajan and Cartic Ramakrishnan and Amit Sheth and Budak Arpinar and Li Ding and Pranam Kolari and Anupam Joshi and Tim Finin, *Semantic Analytics on Social Networks: Experiences in Addressing the Problem of Conflict of Interest Detection*, in Proceedings of the 15th WWW, (nominated for best paper award), May, 2006.
 13. Tim Finin and Li Ding, *Search Engines for Semantic Web Knowledge*, in Proceedings of XTech 2006: Building Web 2.0, May, 2006.
 14. Li Ding and Rong Pan and Tim Finin and Anupam Joshi and Yun Peng and Pranam Kolari, *Finding and Ranking Knowledge on the Semantic Web*, in Proceedings of the 4th ISWC, November, 2005.
 15. Li Ding and Lina Zhou and Tim Finin and Anupam Joshi, *How the Semantic Web is Being Used: An Analysis of FOAF*, in Proceedings of the 38th International Conference on System Sciences (HICSS38), (nominated for best paper award), January, 2005.
 16. Li Ding and Tim Finin and Anupam Joshi and Rong Pan and R. Scott Cost and Yun Peng and Pavan Reddivari and Vishal C Doshi and Joel Sachs, *Swoogle: A Search and Metadata Engine for the Semantic Web*, in Proceedings of the 13th CIKM, 2004.
 17. Li Ding and Lina Zhou and Tim Finin, *Trust Based Knowledge Outsourcing for Semantic Web Agents*, in Proceedings of the 2003 IEEE/WIC International Conference on Web Intelligence, 2003.
 18. Youyong Zou and Tim Finin and Li Ding and Harry Chen and Rong Pan, *Using Semantic web technology in Multi-Agent systems: a case study in the TAGA Trading agent environment*, in Proceeding of the 5th International Conference on Electronic Commerce, 2003.

Refereed Workshop and Poster Papers (26)

1. Li Ding and Dominic DiFranzo and Sarah Magidson and Deborah L. McGuinness and Jim Hendler, *The Data-gov Wiki: A Semantic Web Portal for Linked Government Data*, in ISWC'09 poster/demo, (demo), Oct, 2009.
2. Jie Bao and Li Ding and Deborah L. McGuinness, *Semantic History: Towards Modeling and Publishing Changes of Online Semantic Data*, in Proceedings of the 2nd Social Data on the Web workshop (SDoW2009), October, 2009.
3. James R. Michaelis and Li Ding and Zhenning Shangguan and Stephan Zednik and Rui Huang and Paulo Pinheiro da Silva and Nicholas Del Rio and Deborah L. McGuinness, *Towards Usable and Interoperable Workflow Provenance: Empirical Case Studies Using PML*, in Proceedings of the First International Workshop on the role of Semantic Web in Provenance Management, October, 2009.
4. Jie Bao and Li Ding and James A. Hendler, *Collective Cognition with Semantic MediaWiki: Lessons and Experiences*, in Proceedings of the 1st ITA Workshop on Network-Enabled Cognition, 2009.
5. James R. Michaelis and Li Ding and Deborah L. McGuinness, *Towards the Explanantion of Workflows*, in Proceedings of the IJCAI 2009 Workshop on Explanation Aware Computing (ExaCt), July, 2009.
6. Jiao Tao and Li Ding and Jie Bao and Deborah McGuinness, *Characterizing and Detecting Integrity Issues in OWL Instance Data*, in Proceedings of the 5th International Workshop on OWL: Experiences and Directions (OWLED2008EU), Oct, 2008.
7. Jie Bao and Li Ding and Deborah L. McGuinness and James A. Hendler, *Towards Social Webtops Using Semantic Wiki*, in Proceedings of the 7th International Semantic Web Conference (ISWC'08), (poster), Oct, 2008.
8. James Michaelis and Li Ding and Deborah L. McGuinness, *The TW Wine Agent: A Social Semantic Web Demo*, in Proceedings of the 7th International Semantic Web Conference (ISWC'08), (poster), Oct, 2008.
9. Paulo Pinheiro da Silva and Geoff Sutcliffe and Cynthia Chang and Li Ding and Nick del Rio and Deborah McGuinness, *Presenting TSTP Proofs with Inference Web Tools*, in Proceedings of IJCAR '08 Workshop on Practical Aspects of Automated Reasoning (PAAR-2008), August, 2008.
10. Paulo Pinheiro da Silva and Nicholas Del Rio and Deborah McGuinness and Li Ding and Cynthia

- Chang and Geoff Sutcliffe, *User Interfaces for Portable Proofs*, in Proceedings of 8th International Workshop On User Interfaces for Theorem Provers (UITP'08), August, 2008.
11. Peter Fox and Deborah L. McGuinness and Paulo Pinheiro da Silva and Stephan Zednik and Jose Garcia and Li Ding and Nicholas Del Rio and Cynthia Chang, *User Interfaces for Portable Proofs*, in Proceedings of Geoinformatics 2008 Data to Knowledge, June, 2008.
 12. Li Ding and Jiao Tao and Deborah L. McGuinness, *An Initial Investigation on Evaluating Semantic Web Instance Data*, in Proceedings of the 17th WWW, (poster), April, 2008.
 13. Li Ding, Jiao Tao, Deborah L. McGuinness, *OWL Instance Data Evaluation*, in Proceedings of the 4th International Workshop on OWL: Experiences and Directions, (position paper), April, 2008.
 14. Li Ding, *Provenance and Search Issues in RDF Data Warehouse*, in Proceedings of the AAAI'07 Workshop on Explanation-Aware Computing, (position statement), June, 2007.
 15. Deborah L. McGuinness and Li Ding and Paulo Pinheiro da Silva and Cynthia Chang, *PML 2: A Modular Explanation Interlingua*, in Proceedings of the AAAI'07 Workshop on Explanation-Aware Computing, July, 2007.
 16. Deborah L. McGuinness and Li Ding and Alyssa Glass and Cynthia Chang and Honglei Zeng and Vasco Furtado, *Explanation Interfaces for the Semantic Web: Issues and Models*, in Proceedings of the 3rd International Semantic Web User Interaction Workshop, November, 2006.
 17. Tim Finin and Li Ding and Anupam Joshi, *Information Integration and the Semantic Web*, in Proceedings of the Workshop on Information Integration, October, 2006.
 18. Joel Sachs and Cynthia Parr and Andriy Parafiyuk and Rong Pan and Lushan Han and Li Ding and Tim Finin and Allan Hollender and Taowei Wang, *Using the Semantic Web to Support Ecoinformatics*, in Proceedings of the AAAI-06 Fall Symposium on the Semantic Web for Collaborative Knowledge Acquisition, October, 2006.
 19. Deborah L. McGuinness and Honglei Zeng and Paulo Pinheiro da Silva and Li Ding and Dhyanes Narayanan and Mayukh Bhaowal, *Investigations into Trust for Collaborative Information Repositories: A Wikipedia Case Study*, in Proceedings of the WWW'06 Workshop on Models of Trust for the Web, May, 2006.
 20. Cynthia Parr and Andriy Parafiyuk and Joel Sachs and Li Ding and Sandor Dornbush and Tim Finin and Taowei Wang and Allan Hollender, *Integrating Ecoinformatics Resources on the Semantic Web*, in Proceedings of the 15th WWW, (poster), May, 2006.
 21. Li Ding, *On Boosting Semantic Web Data Access*, in Proceedings of the 12th AAAI, (presented in AAAI/SIGART Doctoral Consortium), July, 2005.
 22. Pranam Kolari and Li Ding and Shashidhara Ganjugunte and Lalana Kagal and Anupam Joshi and Tim Finin, *Enhancing Web Privacy Protection through Declarative Policies*, in Proceedings of the 6th IEEE International Workshop on Policies for Distributed Systems and Networks, June, 2005.
 23. Li Ding and Pranam Kolari and Tim Finin and Anupam Joshi and Yun Peng and Yelena Yesha, *On Homeland Security and the Semantic Web: A Provenance and Trust Aware Inference Framework*, in Proceedings of the AAAI-05 Spring Symposium on AI Technologies for Homeland Security, March, 2005.
 24. Li Ding and Pranam Kolari and Shashidhara Ganjugunte and Tim Finin and Anupam Joshi, *Modeling and Evaluating Trust Network Inference*, in Proceedings of the 7th International Workshop on Trust in Agent Societies, 2004.
 25. Li Ding and Tim Finin and Yongmei Shi and Youyong Zou and Zhongli Ding and Rong Pan, *Strategies and heuristics used by the University of Maryland Baltimore CountyTAC agent in the third Trading Agent Competition*, in Proceedings of the IJCAI'05 Workshop on Trading Agent Design and Analysis, 2003.
 26. Li Ding and Yingwei Luo and Xiaolin Wang and Ying Zhang and Lei Qu and Zhuoqun Xu, *A Spatial Information sharing framework in Semantic Web*, in Proceedings of the China GIS Workshop, (in chinese), 2001.

Demos and Presentations (8)

1. Li Ding, *The Future of the Semantic Web*, Presented at IBM Research China, Nov, 5, 2008.
2. Li Ding, *Towards Web-Scale Computing on the Semantic Web*, Presented at Institute Of Computing Technology Chinese Academy Of Sciences (and Peking University and Tsinghua University), Nov, 7, 2008.
3. Li Ding and Jie Bao and Jim Hendler and Deborah McGuinness, *Semantic Wiki @RPI*, Presented at DIG group, MIT, October, 3, 2008.
4. Deborah McGuinness and Li Ding, *Explanation in GILA Phase II*, Presented at the Integrated Learning PI Meeting, Washington DC., January, 15, 2008.
5. Cynthia Parr and Andriy Parafiyuk and Joel Sachs and Rong Pan and Lushan Han and Li Ding and Tim Finin and Taowei Wang, *Using the Semantic Web to Integrate Ecoinformatics Resources*, in Proceedings of the 21st AAI, (intelligent systems demo), July, 2006.
6. Li Ding, *Enhancing Web-scale Semantic Web Data Access*, presented in the Stanford Logic Group Meeting, Stanford, CA, November, 15, 2006.
7. Li Ding and Deborah L. McGuinness and Tim Finin and Anupam Joshi, *Semantic Web Technologies: A Tutorial*, presented in the Kodak Research Laboratories, Rochester, NY, July, 18, 2006.
8. Tim Finin and Li Ding and Rong Pan and Anupam Joshi and Pranam Kolari and Akshay Java and Yun Peng, *Swoogle: Searching for knowledge on the Semantic Web*, in Proceedings of the 12th AAI, (intelligent systems demo), July, 2005.

Professional Service

Honors and Awards

- Kodak postdoctoral fellow, 2006
- Nominated for best paper award in the 16th International World Wide Web Conference, 2006
- AAI Travel grant for spring symposiums and main conference, 2005
- Best Student Entry Award in Agentcities Technology Competition, 2003
- Peking University Graduate Research Prize, 2001
- Wu-Si Fellowship (Peking University), 2000

Conference and Workshop Activities (31)

- Web Chair, The Third International Provenance and Annotation Workshop, June, 2010
- Program Committee Member, The Second International Symposium on Data, Privacy, and E-Commerce (ISDPE'10), June, 2010
- Program Committee Member, the 19th International World Wide Web conference (WWW'10), April, 2010
- Program Committee Member, AAI 2010, July, 2010
- Program Committee Member, CIKM 2010, October, 2010
- Program Committee Member, Linked AI: AAI Spring Symposium "Linked Data Meets Artificial Intelligence", March, 2010
- Program Committee Member, The Third Chinese Semantic Web Symposium, August, 2009
- Program Committee Member, Social Data on the Web, October, 2009
- Program Committee Member, International Workshop on Computational Social Networks, September, 2009
- Program Committee Member, Semantics for the Rest of Us -- Variants of Semantic Web Languages in the Real World, October, 2009
- Program Committee Member, CIKM 2009, November, 2009
- Program Committee Member, the 8th International Semantic Web Conference (ISWC'09), October, 2009
- Program Committee Member, IJCAI 2009, July, 2009

- Program Committee Member, the 8th Eighth International Conference on Autonomous Agents and Multiagent Systems(AAMAS'09), May, 2009
- Co-Chair, AAAI 2009 Spring Symposium on Social Semantic Web: Where Web 2.0 Meets Web 3.0, March, 2009
- Program Committee Member, the 4th International Workshop on Scalable Semantic Web knowledge Base Systems (SSWS2008), Oct, 2008
- Program Committee Member, Social Data on the Web (SDoW2008), Oct, 2008
- Program Committee Member, the 1st International Workshop on Data Semantics in Social Computing Systems, November, 2008
- Publicity Chair, the 7th International Semantic Web Conference (ISWC'08), October, 2008
- Program Committee Member, the ACM 17th Conference on Information and Knowledge Management (CIKM'08), October, 2008
- Program Committee Member, the 2nd IEEE International Conference on Semantic Computing (ICSC'08), August, 2008
- Program Committee Member, WWW'08 Workshop on Social Web Search and Mining, April, 2008
- Program Committee Member, AAAI'08 Spring Symposium on Semantic Scientific Knowledge Integration, March, 2008
- Program Committee Member, the 17th International World Wide Web conference (WWW'08), April, 2008
- Program Committee Member, the 6th International Semantic Web Conference (ISWC'07), November, 2007
- Program Committee Member, the 16th International World Wide Web conference (WWW'07), May, 2007
- Program Committee Member, ISWC'07 Workshop on Privacy Enforcement and Accountability with Semantics, November, 2007
- Program Committee Member, IJCAI'07 Workshop on Semantic Web for Collaborative Knowledge Acquisition, January, 2007
- Program Committee Member, AAAI'06 Fall Symposium on Semantic Web for Collaborative Knowledge Acquisition, October, 2006
- Co-Chair, the 2nd International Semantic Web Policy Workshop (SWPW'06), November, 2006
- Program Committee Member, Canadian Semantic Web Working Symposium, June, 2006

Journal Reviewer (10)

- IEEE Transactions on Knowledge and Data Engineering
- Journal of Computer Science and Technology
- ACM Computing Surveys
- Distributed and Parallel Databases
- Data and Knowledge Engineering
- Knowledge and Information Systems
- IEEE Intelligent Systems
- Journal of Web Semantics
- Concurrency and Computation: Practice and Experience
- International Journal of Semantic Web and Information Systems

Thesis Committee (1)

- Lushan Han, Ph.D. Committee Member, University of Maryland Baltimore County

Other

Membership

- Member, Association for the Advancement of Artificial Intelligence(AAAI)

Community Service

- UMBC Chinese Student and Scholar Association (CSSA), 2002- 2003
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this page was last updated by Li Ding on 2009-11-15.