Xudong Liu

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Research Interests

My research focuses on exciting topics in artificial intelligence and social science, including preferences (i.e., preference modeling, learning and reasoning), data-driven and computational social science, knowledge representation and reasoning, decision theory, data mining, and machine learning.

Education

University of Kentucky USA
Doctor of Philosophy, computer science *Aug. 2010 – May 2016*
*GPA:**4.00**/4.00* *Advisor: Dr. Miroslaw Truszczynski*

- **Courses**: Modern Operating Systems, Numerical Analysis, Algorithm Design, Distributed Operating System, Satisfiability and Equivalence Checking, Database Systems, Computer Networks, Networks Security, Preferences in AI and Decision Theory, Principles of Constraint Satisfaction, Comparative Decision Making, Preparing Future Faculty, and Grant Writing.

Harbin Institute of Technology China
Bachelor of Engineering, software engineering *Aug. 2006 – Jul. 2010*
GPA:3.56/4.00 *Advisor: Prof. Yushan Sun*

Employment

Tenure-Track Assistant Professor University of North Florida, USA
Computing and Information Sciences *Aug. 2016 –*

R&D Intern Palo Alto Research Center (PARC), USA
Supervisor: Dr. Christian Fritz *Jun. 2015 – Aug. 2015*

- Conducted research on and developed system modules for representing and reasoning about user constraints and preferences in trip planning.

Graduate Research Assistant University of Kentucky, USA
Advisor: Dr. Miroslaw Truszczynski *Aug. 2010 – May 2015*

- Conducted research on logic-based knowledge representation formalisms, studied and built tools for representing and reasoning about constraints and preferences in artificial intelligence.

Graduate Teaching Assistant University of Kentucky, USA
Advisors: Dr. Truszczynski, Dr. Pike and Dr. Moore *Aug. 2010 – May 2015*

- CS215 - Introduction to Program Design and Problem Solving: leading lab sessions, grading assignments, preparing exam questions and solutions, and holding office hours.
- CS375 - Logic and Theory of Computing: grading assignments, preparing assignment solutions, and holding office hours.
- CS463G - Introduction to Artificial Intelligence: guest instructor, on knowledge representation and reasoning, e.g., propositional logic, and first-order logic.

Undergraduate Teaching Assistant Harbin Institute of Technology, China
Advisor: Prof. Yushan Sun *Aug. 2008 – May 2010*

- Compilers and J2EE, including leading lab sessions and grading assignments.

Undergraduate Intern Information Security Lab, Harbin Institute of Technology, China
Advisor: Prof. Yushan Sun *Aug. 2009 – May 2010*

- Used PHP, MySQL and Apache Tomcat to implement modules of a management system.

Professional Services

Student member: Association for the Advancement of Artificial Intelligence (AAAI)
Student volunteer: 29th AAAI Conference on Artificial Intelligence (AAAI-15)
Program committee: IJCAI-16, IJCAI-13
Paper reviewer: JAIR, AAAI-14, ISAIM-14
Local arrangement committee: ADT-15, LPNMR-15, ICLP-11, NonMon@30-10

Publications

Dissertation:

- **Xudong Liu**. *Modeling, Learning and Reasoning about Preference Trees over Combinatorial Domains*. In Theses and Dissertations–Computer Science, Paper 43, 2016. ProQuest/UMI, Ann Arbor, MI

Conferences:

1. **Xudong Liu**. *Modeling, Learning and Reasoning with Qualitative Preferences*. In Proceedings of the 4th International Conference on Algorithmic Decision Theory (ADT), volume 9346, pages 587-592, 2015. Springer
2. **Xudong Liu** and Miroslaw Truszczynski. *Reasoning with Preference Trees over Combinatorial Domains*. In Proceedings of the 4th International Conference on Algorithmic Decision Theory (ADT), volume 9346, pages 19-34, 2015. Springer
3. **Xudong Liu** and Miroslaw Truszczynski. *Learning Partial Lexicographic Preference Trees over Combinatorial Domains*. In Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI), pages 1539-1545, 2015. AAAI Press
4. **Xudong Liu** and Miroslaw Truszczynski. *Aggregating Conditionally Lexicographic Preferences Using Answer Set Programming Solvers*. In Proceedings of the 3rd International Conference on Algorithmic Decision Theory (ADT), volume 8176, pages 244-258, 2013. Springer
5. Matthew Spradling, Judy Goldsmith, **Xudong Liu**, Chandrima Dadi and Zhiyu Li. *Roles and Teams Hedonic Game*. In Proceedings of the 3rd International Conference on Algorithmic Decision Theory (ADT), volume 8176, pages 351-362, 2013. Springer

Workshops:

1. **Xudong Liu** and Miroslaw Truszczynski. *Preference Trees: A Language for Representing and Reasoning about Qualitative Preferences*. In Proceedings of the 8th AAAI Multidisciplinary Workshop on Advances in Preference Handling (MPREF), pages 55-60, 2014. AAAI Press

Abstract:

1. **Xudong Liu**. *Aggregating Lexicographic Preference Trees Using Answer Set Programming: Extended Abstract*. In 23rd International Joint Conference on Artificial Intelligence Doctoral Consortium (IJCAI DC), 2013.

Technical Talks

1. *Personalization in Trip Planning*. Oral. At the Keeping Current Seminar, Department of Computer Science, University of Kentucky, 2015.
2. *Preference and Social Choice over Combinatorial Domains*. Oral. At the 1st ADT/LPNMR Doctoral Consortium (ADT/LPNMR-DC-15), Lexington, Kentucky, USA, 2015.
3. *Modeling, Learning and Reasoning with Qualitative Preferences*. Poster. At the 1st ADT/LPNMR Doctoral Consortium (ADT/LPNMR-DC-15), Lexington, Kentucky, USA, 2015.
4. *Reasoning with Preference Trees over Combinatorial Domains*. Oral. At the 4th International Conference on Algorithmic Decision Theory (ADT-15), Lexington, Kentucky, USA, 2015.
5. *On Personalizability and Extensibility of Multi-Modal Trip Planning*. Oral. At Dialog, Palo Alto Research Center, Palo Alto, California, USA, 2015.
6. *Constraints and Preferences in Multi-modal Trip Planning*. Poster. At the PARC Summer Intern Poster Session, Palo Alto Research Center, Palo Alto, California, USA, 2015.
7. *Learning Partial Lexicographic Preference Trees over Combinatorial Domains*. Oral (ratio: 12%=238/1991). At the 29th AAAI Conference on Artificial Intelligence (AAAI-15), Austin, Texas, USA, 2015.
8. *Preference Trees: A Language for Representing and Reasoning about Qualitative Preferences*. Oral. At the 8th Multidisciplinary Workshop on Advances in Preference Handling (MPREF-14), Quebec City, Canada, 2014.

9. *Aggregating Conditionally Lexicographic Preferences Using Answer Set Programming Solvers*. Oral. At the 3rd International Conference on Algorithmic Decision Theory (ADT-13), Universite lebre de Bruxelles, Belgium, 2013.
10. *Reasoning About Lexicographic Preferences Over Combinatorial Domains*. At the Keeping Current Seminar, Department of Computer Science, University of Kentucky, 2013.
11. *Roles and Teams Hedonic Game*. Oral. At the 7th Multidisciplinary Workshop on Advances in Preference Handling (MPREF-13), Tsinghua University, Beijing, China, 2013.
12. *Aggregating Conditionally Lexicographic Preferences Using Answer Set Programming Solvers*. Oral. At the 7th Multidisciplinary Workshop on Advances in Preference Handling (MPREF-13), Tsinghua University, Beijing, China, 2013.
13. *Aggregating Lexicographic Preference Trees Using Answer Set Programming: Extended Abstract*. Poster. At the 23rd International Joint Conference on Artificial Intelligence Doctoral Consortium (IJCAI-DC-13), Tsinghua University, Beijing, China, 2013.
14. *Answer Set Programming using Gringo/Clasp*. Oral. At the Keeping Current Seminar, Department of Computer Science, University of Kentucky, 2011.

Honors and Awards

Verizon Fellowship	Fall 2015 - Spring 2016
Graduate Teaching Assistantship	Fall 2014 - Spring 2015, Fall 2012 - Spring 2013
Computer Science Department Travel Funding	for AAAI-15
AAAI-15 Student Volunteer and Scholarship Award	Jan. 2015
International Student Tuition Scholarship	Jan. 2015
Nominee of the Dissertation Year Fellowship	Dec. 2014
Harrison D. Brailsford Graduate Scholarship	Oct. 2014
Kentucky Opportunity Fellowship Awards	Jul. 2013 - Jun. 2014
Nominee of the ACM Award for Outstanding Teaching Assistant	2013
NSF Student Travel Award	Aug. 2013
IJCAI-13 Travel Grant Award	Aug. 2013
Graduate Research Assistantship	Fall 2010 - Spring 2013
Daniel R. Reedy Quality Achievement Fellowship	Aug. 2010 - May 2013
UK Student Travel Funding Awards	for IJCAI-13, ADT-13, AAAI-14
Chinese National Endeavor Scholarship	Fall 2008
Outstanding Student Scholarships	Fall 2006 - Spring 2010

Technical Skills

Programming languages: C/C++, C#, Java, Matlab, Python, Perl, SQL, PHP, HTML

System and software: Linux/Macintosh/Windows, Qt, Git, Answer Set Programming tools, Microsoft Visual Studio, Eclipse, MySql, Microsoft SQL Server

References

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