

Yuqing Tang

Dept. of Computer Science
365 Fifth Avenue
New York, NY 10016

Email: ytang@cs.gc.cuny.edu
<http://www.cs.gc.cuny.edu/~tang>

Education

- Ph.D. in Computer Science, the Graduate Center, City University of New York, May 2010 (expected)
- M.Phil. in Computer Science, the Graduate Center, City University of New York, September 2008
- B.Eng. in Computer Science, Shenzhen University, China, June 1999

Research Experience

- **Models of Hybrid Human Agent Teams: Agent support for ad hoc adaptive collaboration (August 2007–present)** New York, NY
With Professor Simon Parsons
 - Created formal models of multiagent (machine) dialogues for aiding human collaborative planning and plan execution
 - Developed non-deterministic state transition and Markov decision process models for machine team dialogues
 - Developed argumentation-based reasoning for resolving inconsistent information
 - Applied symbolic model checking techniques (implicit set and relation manipulations using Binary Decision Diagrams) to reduce the computation complexity
 - Implemented the dialogue model in C++
 - Analyzed data collected from human dialogues during team plan executions
- **Agent-based Modeling Simulation of Education and Human Capital (August 2004–August 2007)** New York, NY
With Professor Simon Parsons and Professor Elizabeth Sklar
 - Translated equation-based models of education, human capital and economics into agent-based models
 - Demonstrated the possibility of simulating the interaction effects of non-equational social dynamics (drawn from data) and non-equational social policies
 - Simulated both the micro behaviors at level of individual agent and the macro behaviors at the level of the agent society
 - Implemented and analyzed the models in Java with RePast (a Java based agent simulation platform)
 - Replicated the results of the equation based models
 - Discovered new model behaviors beyond the equation based models
- **Matrix Eigen Problems and Polynomial Root-finding (August 2003–August 2005)** New York, NY
With Professor Victor Pan
 - Implemented matrix eigen solving algorithms using C++ and Matlab
 - Implemented polynomial root-finding algorithms using C++ and Matlab
 - Published papers in conferences and journals

Teaching Experience

- **Brooklyn College, CUNY** July – August 2006
Adjunct Instructor New York, NY
 - Lectured course CIS 1.0 – Computing: Its Nature, Power, and Limits

Industry Experience

- **IBM Research** June 2009–August 2009
Research Intern Hawthorne, NY
 - Developed ontology based data conversion for sensors
- **New York State Banking Department** June 2005–August 2005
Graduate Assistant New York, NY
 - Designed and developed a computer program to collect and process banking data into a data warehouse
- **Billion Online INT'LTD** March 2001–August 2002
Software Engineer Shenzhen, China
 - Integrated email systems (include webmail, mailing list, etc.) with qmail, ezmlm and sqwebmail, etc; rewrote part of them with C++
 - Co-led the first phase development of the EIM (Enterprise Instant Messenger) and ETALK (Voice over Internet) project with OpenH323, C++ and pwlib
- **Vinside Information Technology INC.** January 2000–January 2001
Software Engineer Shenzhen, China
 - Initiated a technical team to develop a distributed instant messaging system
 - Participated in fund raising to start up the company
 - Designed a software architecture which later had more than 50 programmers work on it
 - Implemented the core of a multi-server instant messaging system targeting a huge number of users with C++, OpenLDAP, MYSQL on hybrid FreeBSD and Linux systems which later had about 0.5 million registered users
 - Led a team to integrate instant messaging technology into office automation systems

Computer Skills

- Programming Languages: C++, C, JAVA, PASCAL, PROLOG, LISP, PYTHON
- Operating Systems: LINUX, FREEBSD, Windows
- Tools and Libraries: Matlab, LAPACK, Repast, TOMCAT, C++ STL, PostgreSQL, MYSQL, Open LDAP, JSP, Oracle, MS SQL Server, Lex/Yacc

Honors

- Graduate Center Technology Fellowship CUNY-GC, 2006 – 2007
- University Fellowship CUNY-GC, 2002 – 2007
- Excellent Degree Project Award Shenzhen University, 1999
- First-class Scholarship, Excellent Student Shenzhen University, 1995 – 1998

Professional Activities

- Journal reviewer:

- Artificial Intelligence (AIJ), 2009
- Journal of Computation and Logic, 2009
- University and Departmental service:
 - Curriculum Committee, 2006 - Present
 - Graduate Council, 2008 - Present

Publications

Journal Articles

- V. Y. Pan, D. Ivolgin, B. Murphy, R. E. Rosholt, I. Taj-Eddin, Y. Tang, and X. Yan. Additive Preconditioning and Aggregation in Matrix Computations. In *Computers and Mathematics with Applications*, 55(8), 1870–1886, 2008.
- V.Y.Pan, B. Murphy, R. Rosholt, Y. Tang, X. Wang, and A. Zheng. Eigen-solving via Reduction to DPR1 matrices. In *Computers and Mathematics with Applications*, 56(1), 166–171, 2008.
- V. Y. Pan, B. Murphy, R. E. Rosholt, Y. Tang, X. Yan, and W. Cao. Linking the TPR1, DPR1 and Arrow-head Matrix Structures. In *Computers and Mathematics with Applications*, 52(10–11), 1603–1608, 2006.

Refereed Conference Papers

- Y. Tang, T. Norman, and S. Parsons. Towards the implementation of a system for planning team activities. *Annual Conference of ITA*, September 2009.
- Y. Tang, T. Norman, and S. Parsons. A model for integrating dialogue and the execution of joint plans. In *the 8th International Conference on Autonomous Agents and Multi-Agent Systems*, Budapest, Hungary, May 2009. (22% acceptance rate)
- Y. Tang, T. Norman, and S. Parsons. Agent-based Dialogues to Support Plan Execution by Human Teams. *Annual Conference of ITA*, September 2008.
- S. Parsons, S. Poltrock, H. Bowyer, and Y. Tang. Analysis of a Recorded Team Coordination Dialogue. *Annual Conference of ITA*, September 2008.
- Y. Tang, and S. Parsons. A dialogue mechanism for public argumentation using conversation policies. In *the 7th International Conference on Autonomous Agents and Multi-Agent Systems, Estoril, Portugal*, May 2008. (22% acceptance rate)
- Y. Tang, S. Parsons, and E. Sklar. An agent-based model that relates investment in education to economic prosperity. In *the 6th International Conference on Autonomous Agents and Multi-Agent Systems, Honolulu, Hawaii, USA*, May 2007 (poster). (22% acceptance rate, additional 25% for posters)
- Y. Tang, S. Parsons, and E. Sklar. Agent-based modeling of human education data. *the 5th International Conference on Autonomous Agents and Multi-Agent Systems, Hakodate, Japan*, May 2006 (short paper). (23% acceptance rate, additional 25% for short papers)
- Y. Tang, and S. Parsons. Argumentation-based Dialogues for Deliberation. In *the 4th International Conference on Autonomous Agents and Multi-Agent Systems, Utrecht, Netherlands*, July 2005. (25% acceptance rate)

Refereed Workshop and Symposium Papers

- V. Y. Pan, D. Ivolgin, B. Murphy, G. Qian, R. E. Rosholt, I. Taj-Eddin, Y. Tang, and X. Yan. Additive Preconditioning in Matrix Computations. In *Proceedings of the Third International Computer Science Symposium, Moscow, Russia*, June 7-12, 2008

- Y. Tang, S. Parsons, and E. Sklar. An agent-based model that relates investment in education to economic prosperity. In *Proceedings of the Workshop on Multiagent-based Simulation*, Honolulu, 2007.
- V. Y. Pan, G. Qian, B. Murphy, R. E. Rosholt, and Y. Tang. Real Root-finding. In Jan Vershelde and Stephen Watt, editors, *Proceedings of the Third International Workshop on Symbolic-Numeric Computation (SNC 2007)*, pages 161 – 169, ACM Press, London, Ontario, Canada, New York, July 2007.
- Y. Tang, S. Parsons, and E. Sklar. Modeling human education data: From equation-based modeling to agent-based modeling. In *Seventh International Workshop on Multi-Agent-Based Simulation, Hakodate, Japan*, May 2006.
- Y. Tang, and S. Parsons. Using Argumentation-Based Dialogues for Distributed Plan Management. In *AAAI 2006 Spring Symposium on Distributed Plan and Schedule Management*, March 2006 (position paper).
- Y. Tang, and S. Parsons. Argumentation-Based Multi-agent Dialogues for Deliberation. In *Proceedings of Second International Workshop on Argumentation in Multiagent Systems*. Springer-Verlag, 2005 (invited paper).

Book Chapter

- V. Y. Pan, D. Ivolgin, B. Murphy, R. E. Rosholt, Y. Tang, X. Wang, and X. Yan. Root-finding with Eigen-solving. In Dongming Wang and Lihong Zhi, editors, *Symbolic-Numeric Computation*, pages 185 – 210. Birkhauser, Basel/Boston, 2007.

Unrefereed Papers

- Y. Tang, and S. Parsons, An MDP model for planning team actions with communication. ITA technical report, <http://www.usukitacs.com/?q=node/5268>, 2009.