Nan Li

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EDUCATION

Since Aug. 2009	Ph.D. student, *Computer Science Department*, Carnegie Mellon University (CMU).
2009—2012	Master of Science, *Computer Science*, Carnegie Mellon University (CMU).
2006—2009	Master of Computer Science, *Computer Science & Engineering*, Arizona State University (ASU).
2002—2006	Graduation with honors: Bachelor of Science, *Computer Science*, Peking University.
2003--2006	Minor: Bachelor of Science, *Economics*, The Center of Chinese Economics, Peking University.

RESEARCH EXPERIENCE

Since 2009	Research Assistant, Computer Science Department, CMU: Participated in projects that involved extending SimStudent, a state-of-the-art machine-learning agent that learns skills from examples and through its problem-solving experiences, to integrate representation learning with skill learning.
Dec. 2006 – June 2009	Research Assistant, Computer Science & Engineering, ASU: Participated in projects that involved extending Icarus, a cognitive architecture for physical agents.
May 2007–July 2007	Visiting Scholar, Cognitive Systems Laboratory, Center for the Study of Language & Information, Stanford University.
Dec. 2004 – June 2006	Undergraduate Research Assistant, Peking University: Participated in Advanced On-line Analytical Processing, a project sponsored by the Natural Science Foundation of China, in the On-line Analysis Mining Lab.

SUPERVISORY EXPERIENCE

Aug 2012	Mentor, The 8th Annual LearnLab Summer School.
May 2012—Aug 2012	Mentored two summer interns on a project, Creating an educational robot by embedding a learning agent into a physical world.
Since Feb. 2011	Supervised a student on a project, A User-Interface-Ground Learning Agent Architecture, funded by the Google Core AI gift.
Feb. 2011—June 2011	Supervised an undergraduate student on an independent study, Automatic Mapping of Skill Labels into Disjunctive Rules.

OTHER PROFESSIONAL EXPERIENCE

2013	Reviewer, the 6th International Conference on Educational Data Mining.
2013	Reviewer, IEEE Intelligent Systems.
2013	Reviewer, the 16th International Conference on Artificial Intelligence in Education.
2012	Reviewer, Computational Intelligence.
2012	Reviewer, the 5th International Conference on Educational Data Mining, Chania, Greece.

2012	Reviewer, ACM Transactions on Intelligent Systems and Technology.
Jan. 2012—May. 2012	Teaching Assistant for Cognitive Robotics in Computer Science Department, CMU.
2011	Reviewer, Journal of Artificial Intelligence Research.
Aug. 2011—Dec. 2011	Teaching Assistant for Machine Learning in Computer Science Department, CMU.
2010	Reviewer, the 6th International Conference on E-learning and Games, Taipei, Taiwan.
2010	Reviewer, the 24th International FLAIRS Conference, Palm Beach, FL.
May 2010–Aug. 2010	Software Engineer Intern, Google.
May 2008–Aug. 2008	Software Engineer Intern, Google.
Aug. 2006—Dec. 2006	Teaching Assistant in Department of Computer Science & Engineering, ASU.

SELECTED HONORS AND AWARDS

Oct. 2012	Selected to participate and present in ACM Student Research Competition, Grace Hopper Celebration 2012.
Sept. 2010	Selected to participate and present in Grace Hopper Celebration 2010.
April 2010	Winner of Yahoo!'s Key Scientific Challenges Program.
2008---2009	Selected to participate in the ASU Preparing Future Faculty Program.
March 2008	Selected by Google to attend 2008 Google Workshop for Women Engineers.
2006---2007	Block Grant Support, Arizona State University.
2004---2005	Excellent Student in Academy, Morals, and Health, Peking University.
2003---2004	Award for Social Work Excellence, Peking University.
2003---2004	Excellent League Member, Peking University.
2002---2003	Excellent Student in Academy, Morals, and Health, Peking University.
2002---2003	May 4th Scholarship, Peking University.

SERVICES AND OTHER ACTIVITIES

IEEE Student Member. AAAI Student Member.

Since Aug. 2012	Volunteer, Animal Rescue League.
Since 2012	Member of Admissions Committee, Computer Science Department, CMU – Master.
2004---2005	Vice President, Students' Union in the School of Electronics Engineering and Computer Science (SEECS), Peking University.
2003---2004	Director of the Science Department, Students' Union in the SEECS, Peking University.

GRADUATE COURSES

Information Retrieval, Mining and Integration on the Internet; Theory of Computation; Combinatorial Algorithms and Intractability; Action and Change: Autonomous Agents; Optimization Algorithms with Engineering Applications;Introduction to Artificial Intelligence; Machine Learning; Data Mining; Planning and Learning; Applied Cryptography; Knowledge Representation and Reasoning; Cognitive Systems and Intelligent Agents; Machine Learning; Graduate Algorithms; Probabilistic Graphical Models; Programming Language Semantics; Optimizing Compilers for Modern Architectures; Computer Networks; HCI Process and Theory; Applied Research Methods.

UNDER REVIEW

Li, N., Cohen, W., & Koedinger, K. (2013). Problem order implications for learning transfer. (*Under Review).*

Li, N., Matsuda, N., Cohen, W., & Koedinger, K. (2012). Integrating representation learning and skill learning in a human-like intelligent agent. (*Under Review).*

Li, N., Matsuda, N., Cohen, W., & Koedinger, K. (2012). SimStudent: An agent architecture for simulating student learning. (*Under Review).*

JOURNAL ARTICLES

Li, N., Schreiber, A., Cohen, W., & Koedinger, K. (2012). Efficient complex skill acquisition through representation learning. *Advances in Cognitive Systems, 2,* 149-166.

Li, N., Cushing, W., Kambhampati, S., & Yoon, S. (2012). Learning probabilistic hierarchical task networks as probabilistic context-free grammars to capture user preferences. *ACM Transactions on Intelligent Systems and Technology (Accepted).*

Li, N., Stracuzzi, D.J., & Langley, P. (2012). Improving acquisition of teleoreactive logic programs through representation change. *Advances in Cognitive Systems, 1,* 109-126.

Stracuzzi, D.J., Fern, A., Ali, K., Hess, R., Pinto, J., **Li, N.**, Konik, T. & Shapiro, D. (2011). An application of transfer to American football: From observation of raw video to control in a simulated environment. *AI Magazine, 32 (2).*

Yu, H., Tang, S., Yang, D., & **Li, N**. (2005). Significant gradient mining based on data cube computation. *Journal of Computer Science*, *32 (9).* (In Chinese).

CONFERENCE PAPERS

Li, N., Stampfer, E., Cohen, W., & Koedinger, K. (2013). Efficient cross-domain cognitive model discovery using a simulated student. *Proceedings the 35th Annual Meeting of the Cognitive Science Society.* Berlin, Germany.

Li, N., Tian, Y., Cohen, W., & Koedinger, K. (2013). Integrating perceptual learning with external world knowledge in a simulated student. *Proceedings of the 16th International Conference on Artificial Intelligence in Education.* Memphis, TN.

Li, N., Cohen, W., & Koedinger, K. (2013). Discovering student models with a clustering algorithm using problem content. *Proceedings of the 6th International Conference on Educational Data Mining.* Memphis, TN.

Li, N., Schreiber, A., Cohen, W., & Koedinger, K. (2012). Efficient complex skill acquisition through representation learning. *Proceedings of the 1st Annual Conference on Advances in Cognitive Systems.* Palo Alto, CA.

Li, N., Cohen, W., & Koedinger, K. (2012). Learning to perceive two-dimensional displays using probabilistic grammars. *Proceedings of the 22nd European Conference on Machine Learning.* Bristol, UK.

Li, N., Schreiber, A., Cohen, W., & Koedinger, K. (2012). Creating features from a learned grammar in a simulated student. *Proceedings of the 20th European Conference on Artificial Intelligence.* Montpellier, France.

Li, N., Cohen, W., & Koedinger, K. (2012). Efficient cross-domain learning of complex skills. *Proceedings of the 11th International Conference on Intelligent Tutoring Systems.* Chania, Greece.

Li, N., Cohen, W., & Koedinger, K. (2012). Problem order implications for learning transfer. *Proceedings of the 11th International Conference on Intelligent Tutoring Systems.* Chania, Greece.

Li, N., Stracuzzi, D., & Langley, P. (2011). Improving acquisition of teleoreactive logic programs through representation change. *Proceedings of the AAAI 2011 Fall Symposium on Advances in Cognitive Systems.* Arlington, VA.

Li, N., Cohen, W., Koedinger, K., & Matsuda, N. (2011). A machine learning approach for automatic student model discovery. *Proceedings of the 4th International Conference on Educational Data Mining.* Eindhoven, Netherlands.

Li, N., Cohen, W., Koedinger, K., & Matsuda, N. (2010). Towards a computational model of why some students learn faster than others. *Proceedings of the AAAI 2010 Fall Symposium on the Cognitive and Metacognitive Educational Systems.* Arlington, VA.

Li, N., Cohen, W., & Koedinger, K. (2010). A computational model of accelerated future learning through feature recognition. *Proceedings of the 10th International Conference on Intelligent Tutoring Systems.* Pittsburgh, PA.

Konik, T., Ali, K., Shapiro D., **Li, N.,** & Stracuzzi, D.J. (2010). Improving structural knowledge transfer with parametric adaptation. *Proceedings of the 23rd Florida Artificial Intelligence Research Society (FLAIRS) Conference.* Daytona Beach, FL.

Danielescu, A., Stracuzzi, D., **Li, N**., & Langley, P. (2010). Learning from errors by counterfactual reasoning in a unified cognitive architecture. *Proceedings of the 32th Annual Meeting of the Cognitive Science Society*. Portland, OR.

Li, N., Cushing, W., Kambhampati, S., & Yoon, S. (2009). Learning user plan preferences obfuscated by feasibility constraints. *Proceedings of the 19th International Conference on Automated Planning and Scheduling.* Thessaloniki, Greece.

Li, N., Stracuzzi, D.J., Cleveland, G., Konik, T., Shapiro, D., Molineaux, M., Aha, D.W., & Ali, K. (2009). Constructing game agents from video of human behavior. *Proceedings of the 5th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment.* Stanford, CA.

Li, N., Kambhampati, S., & Yoon, S. (2009). Learning probabilistic hierarchical task networks to capture user preferences. *Proceedings of the 21st International Joint Conference on Artificial Intelligence.* Pasadena, CA.

Li, N., Stracuzzi, D.J., Cleveland, G., Langley, P., Konik, T., Shapiro, D., Ali, K., Molineaux, M., & Aha, D.W. (2009). Learning hierarchical skills for game agents from video of human behavior. *Proceedings of the IJCAI 2009 Workshop on Learning Structural Knowledge From Observations*. Pasadena, CA.

Li, N., Stracuzzi, D., Langley, P., & Nejati, N. (2009). Learning hierarchical skills from problem solutions using means-ends analysis. *Proceedings of the Annual Meeting of the Cognitive Science Society.* Amsterdam, Netherlands.

Stracuzzi, D., **Li, N.**, Cleveland, Gary., & Langley, P. (2009). Representing and reasoning over time in a symbolic cognitive architecture. *Proceedings of the Annual Meeting of the Cognitive Science Society.* Amsterdam, Netherlands.

Yang, D., Fang, X., **Li, N.**, & Xue, G. (2009) A simple greedy algorithm for link scheduling with the physical interference model. *Proceedings of IEEE Global Communications Conference.* Hawaii, USA.

Li, N., Stracuzzi, D., & Langley, P. (2008). Learning conceptual predicates for teleoreactive logic programs. *Proceedings of the International Conference on Inductive Logic Programming*. Prague, Czech Republic.

Li, N., Choi, D., & Langley, P. (2007). Adding goal priorities to teleoreactive logic programs. *Proceedings of the International Symposium on Skill Science*. Tokyo, Japan.

Yu, H., Tang, S., Yang, D., & **Li, N**. (2005). Significant gradients mining based on data cube computation. *Proceedings of China National Database Conference.* China.

Yu, H., Tang, S., Yang, D., & **Li, N**. (2005). Aggregation query navigation based on monotonicity. *Proceedings of China National Database Conference.* China.

POSTERS, PRESENTATIONS AND OTHER PUBLICATIONS

Li, N., Khandelwal, A., Phan, T., Touretzky, D., Cohen, W., & Koedinger, K. (2013). Creating an educational robot by embedding a learning agent into a physical world. *Proceedings The 44th ACM Technical Symposium on Computer Science Education (SIGCSE).* Denver, CO.

Li, N., Cohen, W., & Koedinger, K. (2012). Integrating perceptual representation learning and skill learning in a simulated student. *Proceedings of IEEE Conference on Development and Learning / EpiRob.* San Diego, CA.

Li, N., Schreiber, A., Cohen, W., & Koedinger, K. (2012). Automated creation of intelligent tutoring to support personalized online learning. *NIPS Workshop on Personalizing Education with Machine Learning.* Lake Tahoe, CA.

Li, N., Cohen, W., & Koedinger, K. (2010). Integrating transfer learning in synthetic students. *Proceedings of AAAI10 Student Abstract and Poster Program.* Atlanta, GA.

Li, N. (2010). Hidden concept detection in graph-based ranking algorithm for personalized recommendation. *Presented at the 2010 Key Scientific Challenges Graduate Student Summit.* Sunnyvale, CA.

PATENTS

Issued United States Patent: 8,316,019, Ainslie, A, & **Li, N.** Personalized query suggestions from profile trees.

Issued United States Patent: 8,326,861, Ainslie, A, & **Li, N.** Personalized term importance evaluation in queries.

Pending Patent: **Li, N.**, & Graham, M. Aggregating product information for electronic product catalogs.