

Shiwali Mohan

CONTACT INFORMATION	Palo Alto Research Center 3333 Coyote Hill Road Palo Alto, California, 94304	<i>work:</i> (650) 812-4307 <i>cell:</i> (734) 757-0354 <i>email:</i> shiwali.mohan@parc.com <i>url:</i> www.shiwali.me
RESEARCH INTERESTS	Interactive agents, cognitive agents and systems, situated language models for intelligent agents, natural language semantics, interactive knowledge acquisition, cognitive robotics.	
EDUCATION	University of Michigan , Ann Arbor, MI USA Ph.D., Computer Science and Engineering 2009 - 2015 Thesis: <i>From Verbs to Tasks: An Integrated Account of Learning Tasks from Situated Interactive Instruction</i> Thesis Advisor: John Laird Thesis Committee: Edmund Durfee, Richard Lewis, Edwin Olson, Andrea Thomaz University of Michigan , Ann Arbor, MI USA M.S.E., Computer Science and Engineering 2008 - 2009 University of Delhi , New Delhi, India <i>Netaji Subhas Institute of Technology</i> B.E., Instrumentation and Control Engineering 2003 - 2007 Senior Thesis: <i>Extraction-based Single Document Summarization</i>	
EMPLOYMENT	Palo Alto Research Center , Palo Alto, CA USA Postdoctoral Researcher, Interactive Intelligence Group November 2014 - present University of Michigan , Ann Arbor, MI USA Graduate Student Research Assistant to John E. Laird August 2009 - September 2014 Yahoo! Research and Development , Bangalore, Karnataka, India Software Engineer, Media Analytics July 2007 - July 2008	
PROFESSIONAL ACTIVITIES	<i>Organization Committee</i> , Students of Cognitive Systems Workshop 2015	
PUBLICATIONS	Dissertation [D1] Shiwali Mohan . From Verbs to Tasks: An Integrated Account of Task Learning from Situated Interactive Instruction. Ph.D. Thesis, Division of Computer Science and Engineering, University of Michigan, Ann Arbor, 2015. Journal Articles [J1] Shiwali Mohan , Aaron Mininger, and John Laird. Towards an Indexical model of situated comprehension for real-world cognitive agents. <i>Advances in Cognitive Systems</i> 3, ACS 2014.	

- [J2] John Laird and **Shiwali Mohan**. A case study of knowledge integration across multiple memories in Soar. *Biologically Inspired Cognitive Architectures* (invited), BICA 2014.
- [J3] **Shiwali Mohan**, Aaron Mininger, James Kirk, and John Laird. Acquiring grounded representations of words with situated interactive instruction. *Advances in Cognitive Systems 2*, ACS 2012.

Conference Proceedings

- [C1] **Shiwali Mohan** and John Laird. Learning goal-oriented hierarchical tasks from situated interactive instruction. *In the Proceedings of the 28th AAAI Conference*, AAAI 2014.
- [C2] **Shiwali Mohan**, Aaron Mininger, and John Laird. Towards an Indexical model of situated comprehension for real-world cognitive agents. *In Proceedings of the 2nd Conference on Advances in Cognitive Systems*, ACS 2013.
- [C3] **Shiwali Mohan**, James Kirk, and John Laird. A computational model of situated task learning with interactive instruction. *In Proceedings of the 17th International Conference on Computational Modeling*, ICCM 2013.
- [C4] Mandar Joshi, Rakesh Khobragade, Saurabh Sarda, Umesh Deshpande, and **Shiwali Mohan**. Object-oriented representation and hierarchical reinforcement learning in Infinite Mario. *In Proceedings of the 24th IEEE International Conference on Tools with Artificial Intelligence*, ICTAI 2012.
- [C5] **Shiwali Mohan** and John Laird. An Object-Oriented approach to reinforcement learning in an action game. *In Proceedings of the 7th Artificial Intelligence for Interactive Digital Entertainment Conference*, AIIDE 2011.
- [C6] Niladri Chatterjee and **Shiwali Mohan**. Discovering word senses from text using random indexing. *In Proceedings of the 9th International Conference on Computational linguistics and Intelligent Text Processing*, CICLing 2008. Best Paper Award.
- [C7] Niladri Chatterjee and **Shiwali Mohan**. Extraction-based single-document summarization using random indexing. *In Proceeding of the 19th IEEE International Conference on Tools with Artificial Intelligence*, ICTAI 2007.

Refereed Symposia/Workshop Proceedings

- [W1]: John E. Laird and **Shiwali Mohan**. A case study of knowledge integration across multiple memories in Soar. *In Papers from the AAAI Fall Symposium Series on Integrated Cognition*, 2013.
- [W2]: **Shiwali Mohan**^{*}, Aaron Mininger^{*}, James Kirk^{*}, and John Laird. Learning grounded language through situated interactive instruction. *In Papers from the AAAI Fall Symposium Series on Robots Learning Interactively from Human Teachers*, 2012.
- [W3]: John Laird, Keegan Kinkade, **Shiwali Mohan**, and Joseph Xu. Cognitive robotics using the soar cognitive architecture. *In Proceedings of the 8th International Cognitive Robotics Workshop*, 2012.
- [W4]: **Shiwali Mohan** and John Laird. Situated comprehension of imperative sentences in embodied, cognitive agents. *In Papers from the AAAI Workshop on Grounding Language for Physical Systems*, 2012.

- [W5]: **Shiwali Mohan** and John Laird. Towards situated, interactive, instructable agents in a cognitive architecture. *In Papers from the AAAI Fall Symposium Series on Advances in Cognitive Systems*, 2011.

Refereed Extended Abstracts

- [A1] **Shiwali Mohan**, and John E. Laird. Learning new tasks for situated interactive instruction. *In the 2014 HRI Pioneers Workshop at Human-Robot Interaction*, 2014.
- [A2] Mandar Joshi, Rakesh Khobragade, Saurabh Sarda, Umesh Deshpande, and **Shiwali Mohan**. Hierarchical action selection for reinforcement learning in Infinite Mario. *In Proceedings of the 6th Starting Artificial Intelligence Research Symposium at European Conference on Artificial Intelligence*, STAIRS 2012.
- [A3] **Shiwali Mohan** and John Laird. Learning actions and action verbs from human-agent interaction. *In Proceedings of the 26th AAAI Conference on Artificial Intelligence*, AAAI 2012.
- [A4] **Shiwali Mohan** and John Laird. Exploring mixed-initiative interaction for learning with situated instruction in cognitive agents. *In Proceedings of the 26th AAAI Conference on Artificial Intelligence*, AAAI 2012.
- [A5] **Shiwali Mohan** and John Laird. Relational reinforcement learning in Infinite Mario. *In Proceedings of the 24th AAAI Conference on Artificial Intelligence*, AAAI 2010.

HONORS AND AWARDS

HRI Pioneers Scholarship, 2014
 AAAI Travel Grant, AAAI Fall Symposium Series: 2013
 Doctoral Consortium Scholarship, AAAI: 2012
 Rackham Travel Grant: 2011, 2012, 2013
 Best Paper Award, CICLing: 2008
 Scholarship for Academic Excellence at the University of Delhi: 2003 - 2007

TEACHING EXPERIENCE

University of Michigan, Ann Arbor, MI, USA
Guest Lecturer: Cognition and Interactive Systems April 2014
 EECS 498: Intelligent Interactive Systems

University of Michigan, Ann Arbor, MI, USA
Graduate Student Instructor January 2012 - April 2012
 EECS 492: Introduction to Artificial Intelligence

University of Michigan, Ann Arbor, MI, USA
Student September 2011 - December 2011
 EECS 580: Teaching Engineering

ADVISING EXPERIENCE

Bharati Vidyapeeth College of Engineering, New Delhi, India
 Senior thesis: *Designing Soar agents for planet wars* September 2012 - Present
 Students: Anant Mittal, Anmol Gupta

Visvesvaraya National Institute of Technology, Nagpur, India
 Senior thesis: *Reinforcement learning agents for Infinite Mario* September 2011 - May 2012
 Students: Mandar Joshi, Rakesh Khobragade, Saurabh Sarda

INVITED TALKS

Learning Hierarchical Tasks with Situated Interactive Instruction

Center for Vision, Cognition, Learning, and Art, UCLA

USC Institute for Creative Technologies.

Interaction Lab, Computer Science and Engineering, USC

Information Sciences Institute, Los Angeles

November 2013

November 2013

December 2013

December 2013