

# Shiqi Zhang

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## Research Interests

I am generally interested in research on **artificial intelligence** and **robotics**. In particular, my recent work focuses on integrated reasoning and planning in robotics, robot planning and learning, human-robot collaborations, and multi-robot systems.

## Research Experience

**Assistant Professor**, 08/2016 - Current

Cleveland State University, Department of Electrical Engineering and Computer Science (Cleveland, OH, USA)

**Postdoctoral Fellow**, under Professor Peter Stone, 02/2014 - 08/2016

The University of Texas at Austin, Department of Computer Science (Austin, TX, USA)

**Postdoctoral Research Associate**, under Professor Mohan Sridharan, 09/2013 - 01/2014

Texas Tech University, Department of Computer Science (Lubbock, TX, USA)

**Research Assistant** 09/2009 - 08/2013

Texas Tech University, Department of Computer Science (Lubbock, TX, USA)

**Intern**, 06/2012 - 09/2012

Microsoft Research Asia, Mobile and Sensing Systems Group (Beijing, China)

**Intern**, 02/2009 - 05/2009

Shenzhen Wayto Technology (Shenzhen, China)

**Research Assistant**, 03/2007 - 12/2008

Tsinghua University, Tsinghua-CUHK Joint Research Center (Shenzhen, China)

## Education

- **Ph.D. in Computer Science** (GPA: 3.918/4.0), Texas Tech University, Lubbock TX, USA. 2013  
Dissertation topic: “**Integrating Answer Set Programming and POMDPs for Knowledge Representation and Reasoning in Robotics**”.  
Dissertation Committee: Mohan Sridharan (Chair), Micheal Gelfond, Hamed Sari-Sarraf and Jeremy Wyatt
- **M.S. in Microelectronics**, Harbin Institute of Technology, Harbin, China. 12/2008  
Outstanding Graduate Award, Higher Education Office of Heilongjiang Province (2% in HIT received)
- **B.S. in Microelectronics**, Harbin Institute of Technology, Harbin, China. 07/2006

## Publications

### Journal Papers

- Yuqian Jiang, Shiqi Zhang, Piyush Khandelwal, and Peter Stone, **An Empirical Comparison of PDDL-based and ASP-based Task Planners**, *IEEE Robotics and Automation Letters (RA-L)*, 2017 (submitted, under review)
- Mohan Sridharan, Michael Gelfond, Shiqi Zhang, and Jeremy Wyatt, **A Refinement-Based Architecture for Knowledge Representation and Reasoning in Robotics**, CoRR arXiv:1508.03891 (53 pages, first version in 2015, last update in 2017), *Journal of Artificial Intelligence Research (JAIR)* in 2017 (submitted, under review)
- Piyush Khandelwal, Shiqi Zhang, Jivko Sinapov, Matteo Leonetti, Jesse Thomason, Fangkai Yang, Ilaria Gori, Maxwell Svetlik, Priyanka Khante, Vladimir Lifschitz, J.K. Aggarwal, Raymond Mooney, and Peter Stone, **BWIBots: A Platform for Bridging the Gap Between AI and Human-Robot Interaction Research**, *International Journal on Robotics Research (IJRR)*, Volume 36, Issue 5-7, pp 635-659, 2017
- Shiqi Zhang, Mohan Sridharan and Jeremy Wyatt, **Mixed Logical Inference and Probabilistic Planning for Robots in Unreliable Worlds**, *IEEE Transactions on Robotics (T-RO)*, Volume 31, Issue 3, pp 699-713, 2015
- Shiqi Zhang, Mohan Sridharan and Christian Washington, **Active Visual Planning for Mobile Robot Teams using Hierarchical POMDPs**, *IEEE Transactions on Robotics (T-RO)*, Volume 29, Issue 4, pp 975-985, 2013

### Refereed Conference Papers

- Dongcai Lu, Shiqi Zhang, Peter Stone, and Xiaoping Chen, **Leveraging Commonsense Reasoning and Multimodal Perception for Robot Spoken Dialog Systems**, *International Conference on Intelligent Robots and Systems (IROS)*, Vancouver, Canada, 2017
- Shiqi Zhang, Yuqian Jiang, Guni Sharon and Peter Stone, **Multirobot Symbolic Planning under Temporal Uncertainty**, *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Sao Paulo, Brazil, 2017
- Shiqi Zhang, Piyush Khandelwal and Peter Stone, **Dynamically Constructed (PO)MDPs for Adaptive Robot Planning**, *The Thirty-First AAAI Conference on Artificial Intelligence (AAAI)*, San Francisco, California, 2017
- Shiqi Zhang, Dongcai Lu, Xiaoping Chen and Peter Stone, **Robot Scavenger Hunt: A Standardized Framework for Evaluating Intelligent Mobile Robots**, *International Joint Conference on Artificial Intelligence (IJCAI)*, Demonstrations Track, New York City, 2016  
\* We gave a full-day demonstration of a BWIBot running Scavenger Hunt tasks in Austin TX. The robot was remotely connected via a telepresence tool, VirTour, that was developed by Pato Lankenau.
- Shiqi Zhang and Peter Stone, **CORPP: Commonsense Reasoning and Probabilistic Planning, as Applied to Dialog with a Mobile Robot**, *The Twenty-Ninth AAAI Conference on Artificial Intelligence (AAAI)*, Austin, TX, 2015
- Jesse Thomason, Shiqi Zhang, Raymond Mooney and Peter Stone, **Learning to Interpret Natural Language Commands through Human-Robot Dialog**, *International Joint Conference on Artificial Intelligence (IJCAI)*, Buenos Aires, Argentina, 2015  
\* This work was covered in CXOToday, CIO and H+ in July 2015
- Shiqi Zhang, Fangkai Yang, Piyush Khandelwal and Peter Stone, **Mobile Robot Planning using Action Language BC with an Abstraction Hierarchy**, *International Conference on Logic Programming and Non-monotonic Reasoning (LPNMR)*, Lexington, KY, 2015

- Shiqi Zhang, Mohan Sridharan, Michael Gelfond and Jeremy Wyatt, **Towards an Architecture for Knowledge Representation and Reasoning in Robotics**, *International Conference on Social Robotics (ICSR)*, Sydney, Australia, 2014
- Shiqi Zhang, Mohan Sridharan and Forrest Bao, **ASP+POMDP: Integrating Non-monotonic Logic Programming and Probabilistic Planning on Robots**, *International Conference on Developmental Learning and Epigenetic Robotics (ICDL-EPIROB)*, San Diego, CA, 2012  
\* Paper of Excellence Award
- Shiqi Zhang and Mohan Sridharan, **Active Visual Sensing and Collaboration on Mobile Robots using Hierarchical POMDPs**, *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Valencia, Spain, 2012
- Shiqi Zhang, Forrest Bao and Mohan Sridharan, **Combining Probabilistic Planning and Logic Programming on Mobile Robots**, *The Twenty-Sixth AAI Conference on Artificial Intelligence (AAAI)*, Student Abstract Track, Toronto, Canada, 2012
- Xiang Li, Mohan Sridharan and Shiqi Zhang, **Autonomous Learning of Vision-based Layered Object Models on Mobile Robots**, *International Conference on Robotics and Automation (ICRA)*, Shanghai, China, 2011
- Shiqi Zhang, Mohan Sridharan and Xiang Li, **To Look or Not to Look: A Hierarchical Representation for Visual Planning on Mobile Robots**, *International Conference on Robotics and Automation (ICRA)*, Shanghai, China, 2011
- Chun Yuan, Shiqi Zhang and Zhao Wang, **A Handwritten Character Recognition System Based on Acceleration**, *International Conference on Digital Content, Multimedia Technology and its Applications*, Busan, South Korea, 2011
- Shiqi Zhang, Chun Yuan and Yan Zhang, **Self-defined Gesture Recognition on Keyless Handheld Devices Using MEMS 3D Accelerometer**, *International Conference on Natural Computation*, Jinan, China, 2008
- Zhao Liu, Zhijie Yuan, Weichang Xu, Xiang Song, Shiqi Zhang and Qibo Huang, **Design of Gesture Recognition, using Freescale 3D Micro-accelerometers**, Freescale Design Competition (Proceedings published in *Global Electronics China*, Issue 4, 2008), Shanghai, China, 2008

## Refereed Workshop Papers

- Shiqi Zhang and Peter Stone, **Integrated Commonsense Reasoning and Probabilistic Planning**, *Workshop on Planning and Robotics (PlanRob)*, collocated with ICAPS, Pittsburgh, PA, 2017
- Shiqi Zhang, Jivko Sinapov, Suhua Wei and Peter Stone, **Robot Behavioral Exploration and Multimodal Perception using POMDPs**, *The AAI Spring Symposium on Interactive Multi-Sensory Perception for Embodied Agents*, Stanford University, 2017
- Shiqi Zhang, Piyush Khandelwal and Peter Stone, **Dynamically Constructed (PO)MDPs for Adaptive Robot Planning**, *Workshop on Autonomous Mobile Service Robots*, collocated with IJCAI, New York City, USA, 2016
- Shiqi Zhang, Yuqian Jiang, Guni Sharon and Peter Stone, **Multirobot Symbolic Planning under Temporal Uncertainty**, *Workshop on Autonomous Mobile Service Robots*, collocated with IJCAI, New York City, USA, 2016
- Shih-Yun Lo, Shiqi Zhang and Peter Stone, **Integrated Task and Motion Planning for Mobile Service Robots**, *Workshop on Task and Motion Planning*, collocated with RSS, Ann Arbor, Michigan, 2016
- Mohan Sridharan, Michael Gelfond, Shiqi Zhang and Jeremy Wyatt, **Mixing Non-monotonic Logical Reasoning and Probabilistic Planning for Robots**, *Hybrid Reasoning Workshop*, collocated with IJCAI, Buenos Aires, Argentina, 2015

- Shiqi Zhang and Peter Stone, **CORPP: Commonsense Reasoning and Probabilistic Planning, as Applied to Dialog with a Mobile Robot**, *The AAAI Spring Symposium on Knowledge Representation and Reasoning*, Stanford, CA, 2015
- Shiqi Zhang, Mohan Sridharan, Michael Gelfond and Jeremy Wyatt, **Integrating Probabilistic Graphical Models and Declarative Programming for Knowledge Representation and Reasoning in Robotics**, *Planning and Robotics Workshop (PlanRob)*, collocated with ICAPS, Portsmouth, NH, 2014
- Shiqi Zhang, Fangkai Yang, Piyush Khandelwal and Peter Stone, **Mobile Robot Planning using Action Language  $\mathcal{BC}$  with Hierarchical Domain Abstractions**, *The Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP)*, collocated with ICLP, Vienna, Austria, 2014
- Shiqi Zhang, Mohan Sridharan, Michael Gelfond and Jeremy Wyatt, **KR<sup>3</sup>: An Architecture for Knowledge Representation and Reasoning in Robotics**, *The 15th International Workshop on Non-Monotonic Reasoning (NMR)*, collocated with ICLP, Vienna, Austria, 2014
- Shiqi Zhang and Mohan Sridharan, **Integrating Declarative Programming and Probabilistic Planning for Robots**, *AAAI Fall Symposium Series*, Arlington, VA, 2013
- Shiqi Zhang and Mohan Sridharan, **Combining Answer Set Programming and POMDPs for Knowledge Representation and Reasoning on Mobile Robots**, *Workshop on Knowledge Representation and Reasoning in Robotics (KRR)*, collocated with ICLP, Istanbul, Turkey, 2013
- Shiqi Zhang, Forrest Bao and Mohan Sridharan, **ASP-POMDP: Integrating Non-monotonic Logical Reasoning and Probabilistic Planning on Mobile Robots**, *Workshop on Autonomous Robots and Multirobot Systems (ARMS)*, collocated with AAMAS, Valencia, Spain, 2012
- Shiqi Zhang and Mohan Sridharan, **Visual Search and Multirobot Collaboration on Mobile Robots**, *Workshop on Automated Action Planning for Autonomous Mobile Robots (PAMR)*, collocated with AAAI, San Francisco, CA, 2011
- Shiqi Zhang and Mohan Sridharan, **Vision-based Scene Analysis On a Mobile Robot Using Layered POMDPs**, *Workshop on POMDP Practitioners*, collocated with ICAPS, Toronto, Canada, 2010
- Xiang Li, Shiqi Zhang and Mohan Sridharan, **Vision-based Safe Local Motion On a Humanoid Robot**, *Workshop on Humanoid Soccer Robots*, collocated with Humanoids, Paris, France, 2009
- Shiqi Zhang, Chun Yuan and Yan Zhang, **Handwritten Character Recognition Using Orientation Quantization Based on 3D Accelerometer**, *Workshop on Human Control of Ubiquitous Systems*, collocated with MobiQuitous, Dublin, Ireland, 2008

## Workshop Proposals

- Shiqi Zhang, Matteo Leonetti, Mohan Sridharan, and Jeremy Wyatt, **Integrated representation, reasoning, and learning formalisms for extended autonomy in robotic systems**, *AAAI 2018 Spring Symposium Series*, Stanford, CA, March 26–28 2018
- Shiqi Zhang and Fangkai Yang, **Knowledge Representation and Planning for Robotics and Autonomous Systems**, *In the 14th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR)*, Espoo, Finland, July 3–6, 2017 (Canceled)

## Student Mentoring

### Graduate Students

- Saeid Amiri, PhD Student in Computer Science, CSU (Fall 2017 - )
- Suhua Wei, Master's student in Computer Science, CSU (Fall 2016 - )
- Keting Lu, Master's student in Computer Science, USTC, (with Dr. Xiaoping Chen, Summer 2017 - )

## Undergraduate Students

- James Doherty, Undergraduate in Computer Science, CSU (Summer 2017 - )
- Sujay Bajracharya, Undergraduate in Computer Science, CSU (Summer 2017 - )

## Thesis committee

- Lei Wang, “Advanced Line-Follower Robot”, Master’s student in Electrical Engineering, CSU (Committee Chair: Zhiqiang Gao. Expected Fall 2017)

## Senior Design Project Students, Two Semesters, Cleveland State University

- 2017: UAV-UGV-Human Interaction and Collaboration (ongoing)  
Students: Austin Cassill (Leader), Sujay Bajracharya, William Heeter, and Lakiel Wade
- 2016: Indoor Navigation using Turtlebots  
Students: James Doherty (Leader), Steven Eucker, Nickolas Kramer, Matthew Macias, and Adam Thoenness  
Nominated for the **Best Project Award** of CSU by the Department of EECS in 2017
- 2016: Phone-based Campus Navigation  
Students: Dawid Lenard (Leader), Abdinajibi Abdi, Ledis Kodra, Tian Lu, and William Pierce

## Past Students (as Graduate Mentor)

- Patricia Andrews, REU Undergraduate Student in Colorado College, Summer 2013
- Olatide Omojaro, REU Undergraduate Student in Georgia Tech, Summer 2013
- Christian Washington, REU Undergraduate Student in Louisiana State University, Summer 2012
- Sabyne Peeler, REU Undergraduate Student in Florida A&M University, Summer 2012
- David Kari, REU Undergraduate Student in California Baptist University, Summer 2011
- Jesse Kawell, REU Undergraduate Student in Samford University, Summer 2011
- David R. Seibert, REU Undergraduate Student in Emory University, Summer 2011

## Course Project Supervisor CS378: FRI Autonomous Intelligent Robotics, UT Austin

- Supervised 10 undergraduate students for one semester on projects including robot patrolling in an office environment and human-robot interaction through RGB-D-based gesture recognition, Spring 2014

## Teaching

### Lecturer

- Spring 2017: CIS 693, EEC 693, EEC 793: Autonomous Intelligent Robotics
- Fall 2017: CIS 490, CIS 590: Foundations of Computing
- Spring 2017: CIS 493, EEC 492, EEC 592: Autonomous Intelligent Robotics
- Fall 2016: CIS 490, CIS 590: Foundations of Computing

### Guest Lecturer

- EEC 601: EECS Graduate Seminar, Cleveland State University, Fall 2017  
My topic: Robot Planning in Everyday Environments in 10/2017
- EEC 581: Computer Architecture, Cleveland State University, Spring 2017  
My topic: Robot Operating System (ROS) in 04/2017.

- CIS345: Operating System Principles, Cleveland State University, Fall 2016  
My topic: Robot Operating System (ROS) in 10/2016.
- UGS303: Foundations of Logical Thought, UT Austin, Fall 2015  
My topic: Building-Wide Intelligence (BWI) research introduction to 100 undergraduate students, 10/2015
- CS378: Autonomous Intelligent Robotics, UT Austin, Fall 2015  
My topic: Robot Scavenger Hunt Game, 10/2015
- CS378: Autonomous Intelligent Robotics, UT Austin, Spring 2014  
My topic: SLAM algorithms, 01/2014, and RGB-D sensing, 03/2014

## Teaching Assistant

- CS3364: Design and Analysis of Algorithms, Texas Tech University, Spring 2013
- CS3383: Theory of Automatas, Texas Tech University, Spring 2013
- CS4395: Computer Graphics, Texas Tech University, Spring 2012

## Robot Outreach

- 10/15/2017: 45 students from Berea-Midpark High School (Cleveland OH) visited my lab in CSU. My students and myself introduced our research and demonstrated our robots.
- 02/01/2016: 25 students from Martin Middle School (Austin TX) visited the Building Wide Intelligence (BWI) lab at UT Austin. I introduced research and robots in the lab.

## Honors, Awards, and Fellowships

- **Research Scholarship** (\$4,000)  
President's Office, Texas Tech University, 2013
- **Paper of Excellence Award**  
IEEE International Conference on Developmental Learning and Epigenetic Robotics, San Diego, CA. 2012
- **AAMAS'12 Travel Award**  
Foundation of Autonomous Agents and Multiagent Systems, 2012 (declined)
- **Dean's Fellowship** (\$20,000)  
Edward E. Whitacre Jr. College of Engineering, Texas Tech University, 2009-2014
- **Outstanding Graduate Award**, received as a Master's student (2% in HIT received)  
Education Department of Heilongjiang Province, China. 2008
- **Outstanding Graduate Award**, received as a Master's student (7% in HIT received)  
Harbin Institute of Technology, 2008
- **Runner-up** (out of >200 teams)  
The Sixth Freescale Design Competition in China, 2007
- **Outstanding Graduate Award**, received as an undergraduate student (7% in HIT received)  
Harbin Institute of Technology, 2006

## Professional Activities

### Organizing Committee:

- The AAAI Spring Symposium on Integrating Representation, Reasoning, Learning, and Execution for Goal Directed Autonomy, Stanford, CA, 2018

## Program Committee Member:

### Conferences

- The AAAI Conference on Artificial Intelligence (AAAI), 2014, 2015, 2018
- International Joint Conference on Artificial Intelligence (IJCAI), 2015, 2016, 2017
- Annual Conference Neural Information Processing Systems (NIPS), 2017
- International Conference on Machine Learning (ICML), 2016
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2016

### Workshops

- Workshop on Cognitive Robotics (with IROS), 2016
- Workshop on Computer Vision and Ontology Applied Cross-Disciplinary Technologies, 2014, 2016
- Workshop on Combining AI Reasoning and Cognitive Science with Robotics (with RSS), 2015
- Workshop on Knowledge, Skill, and Behavior Transfer in Autonomous Robots (with AAAI), 2015
- AAAI Fall Symposium on Knowledge, Skill, and Behavior Transfer in Autonomous Robots, 2014
- AAAI Spring Symposium on Knowledge Representation and Reasoning in Robotics, 2014
- Workshop on Knowledge Representation and Reasoning in Robotics, 2013

## Reviewer:

### Conferences

- International Conference on Robotics and Automation (ICRA), 2012, 2014, 2015, 2016, 2017, 2018
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2015, 2017
- International Conference on Intelligent Robots and Systems (IROS), 2011, 2016
- The AAAI Conference on Artificial Intelligence (AAAI), 2016
- International Conference on Developmental Learning and Epigenetic Robotics (ICDL-EPIROB), 2014
- European Conference on Artificial Intelligence (ECAI), 2014
- International Joint Conference on Artificial Intelligence (IJCAI), 2013

### Workshops:

- The AAAI 2017 Fall Symposium on Human-Agent Groups: Studies, Algorithms and Challenges, 2017
- Workshop on Mathematical Models, Algorithms, and Human-Robot Interaction (with RSS), 2017
- Workshop on Autonomous Mobile Service Robots (with IJCAI), 2016

### Journals:

- IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2014, 2015, 2016, 2017
- IEEE Transactions on Automation Science and Engineering (T-ASE), 2017
- Elsevier Engineering Applications of Artificial Intelligence, 2017
- Elsevier Cognitive Systems Research, 2016
- Hindawi Mathematical Problems in Engineering, 2016
- Taylor & Francis: Advanced Robotics, 2015
- IEEE Access, 2014
- Taylor & Francis: Journal of Experimental and Theoretical Artificial Intelligence, 2014
- IEEE Transactions on Robotics (T-RO), 2013

### Proposal:

- Office of Naval Research (ONR), Ad Hoc Reviewer, 2017
- National Science Foundation (NSF), CISE, Panelist, 2017

## Volunteer:

- Judge, Northeast Ohio Consortium Poster Conference, 2017
- Demonstration Volunteer, ExploreUT: "The Biggest Open House in Texas", 2014, 2015, 2016
- Demonstration Volunteer, AAAI-15 Robotics Exhibition, 2015
- Judge, Hub City Regional, FIRST Robotics Competition, 2013
- Student Volunteer, IEEE International Conference on Development and Learning (ICDL), 2012
- Student Judge, GEAR Robotics Competition, Lubbock TX, 2011

## University Service:

Cleveland State University

- Assessment Peer Reviewer, 2017
- Program Director, Chinese American Faculty and Staff Association (CAFSA), 2017-2018

College of Engineering, Cleveland State University

- NAE Grand Challenge Committee, 2017

Department of EECS, College of Engineering, Cleveland State University

- Faculty Search Committee, 2017

## Talks and Panelists (external)

- AAAI 2017 Fall Symposium on Human-Agent Groups: Studies, Algorithms and Challenges, "Topic to be decided: Multi-Robot Systems", Arlington, VA. November 2017
- Panelist of NEO Chapter of ACM (Association for Computing Machinery), "AI, We Come In Peace", Youngstown State University, Youngstown OH. September 2017
- Northeast Ohio Computer Science and Information Systems Colloquium Series, "Planning for Intelligent Mobile Robots in Everyday Environments", Kent State University, Kent, OH. March 2017
- Air Force Research Laboratory (AFRL), "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics", Dayton, OH. October 2016
- Texas State University, "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics", Department Seminar, San Marcos, TX. April 2016
- SUNY Albany, "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics", Department Seminar, Albany, NY. April 2016
- Cleveland State University, "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics", Department Seminar, Cleveland, OH. March 2016
- SUNY Binghamton, "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics", Department Seminar, Binghamton, NY. March 2016
- University of Wyoming, "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics", Department Seminar, Remote talk. February 2016
- Office of Naval Research, "CORPP: Commonsense Reasoning and Probabilistic Planning, as Applied to Dialog with a Mobile Robot" (1/2 talk), Science of Autonomy Workshop, Arlington, VA. August 2015
- Baidu Research, "Combining Answer Set Programming and POMDPs for Reasoning in Robotics", Research Seminar, Sunnyvale, CA. June 2015
- University of Texas at Austin, "Combining Answer Set Programming and POMDPs for Reasoning in Robotics", LARG Group Seminar, Austin, TX. November 2013

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- Southeast University, "Automated Planning on Autonomous Robots", Artificial Intelligence Lab Seminar, Nanjing, China. August 2012
- Microsoft Research (Asia), "Automated Planning on Autonomous Robots", Mobile and Sensing Systems Group Seminar, Beijing, China. July 2012

## Talks (internal)

- Ignite Talk at CSU College of Engineering Faculty Meeting  
March 2017
- CSU Human Machine System Seminar  
October 2016
- UT Austin Robotics Program Weekly Meeting  
November 2015
- Texas Tech UREASON Seminar  
October 2012
- Texas Tech UREASON Seminar  
April 2012
- Texas Tech KR Lab Seminar  
February 2012

## References

Available on request

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