Shiqi Zhang, Ph.D.

Associate Professor
School of Computing
Binghamton University, SUNY
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Research Interests

Artificial Intelligence and **Robotics**.

In particular, I am interested in developing algorithms that integrate reasoning, planning, and learning formalisms for mobile service robots that work in human-inhabited, collaborative, everyday environments.

Research Experience

Associate Professor, 09/2023 - present
Assistant Professor, 09/2018 - 08/2023
School of Computing, The State University of New York at Binghamton (SUNY Binghamton)

Consultant, 04/2024 - present
vibe.us

Assistant Professor, 08/2016 - 05/2018
Department of Electrical Engineering and Computer Science, Cleveland State University

Postdoctoral Fellow, with Professor Peter Stone, 02/2014 - 08/2016
Department of Computer Science, the University of Texas at Austin (UT Austin)

Postdoctoral Research Associate, with Professor Mohan Sridharan, 09/2013 - 02/2014
Research Assistant, 09/2009 - 08/2013
Department of Computer Science, Texas Tech University

Research Intern, 06/2012 - 09/2012
Mobile and Sensing Systems Group, Microsoft Research Asia (MSRA)

Intern, 02/2009 - 05/2009
Wayto Technology (Shenzhen, China)

Research Assistant, 03/2007 - 12/2008
Tsinghua-CUHK Joint Research Center for Media Sciences and Systems (Shenzhen), Tsinghua University

Education

- **Ph.D. in Computer Science** (GPA: 3.9/4.0), Texas Tech University, Lubbock TX, USA. 08/2013
  Dissertation topic: "Integrating Answer Set Programming and POMDPs for Knowledge Representation and Reasoning in Robotics".
  Dissertation Committee: Mohan Sridharan (Committee Chair), Micheal Gelfond, Hamed Sari-Sarraf, and Jeremy Wyatt (External, University of Birmingham, UK)
- **M.S. in Microelectronics**, Harbin Institute of Technology (HIT), Harbin, China. 12/2008
  Thesis topic: "System Design and Implementation of Multimedia Home Gateway"
  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

Awards and Research Distinctions

- **Outstanding Associate Editor**
  IEEE Robotics and Automation Letters 2024
- **Top Cited Article**
  AI Magazine 2022-2023
- **Career Champion**
  The Fleishman Center for Career and Professional Development, Binghamton University, 2023, 2024
- **Outstanding Research Achievement Award**
  Department of Computer Science, Binghamton University, 2022
- **Faculty Research Award**
  OPPO, 2020
- **URP Award, University Research Program**
  Ford Motor Company, 2019-2024
- **Best Robotics Paper**
  International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2018
- **Paper of Excellence Award**
  IEEE International Conference on Development and Learning (ICDL), 2012
- **Dean's Fellowship**
  Edward E. Whitacre Jr. College of Engineering, Texas Tech University, 2009-2014
- **Outstanding Graduate Award (Graduate Level)**, Top 2% at Harbin Institute of Technology
  Education Department of Heilongjiang Province, China. 2008
- **Outstanding Graduate Award (Graduate Level)**, Top 7% at Harbin Institute of Technology
  Harbin Institute of Technology, 2008
- **Best Project Runner Up** (out of >200 teams)
  The Sixth Freescale Design Competition China, 2007
- **Outstanding Graduate Award (Undergraduate Level)**, Top 7% at Harbin Institute of Technology
  Harbin Institute of Technology, 2006

Publications

Journal Articles

- Zhigen Zhao, Shuo Cheng, Yan Ding, Ziyi Zhou, Shiqi Zhang, Danfei Xu, and Ye Zhao, **A Survey of Optimization-based Task and Motion Planning: From Classical To Learning Approaches**, *IEEE/ASME Transactions on Mechatronics (TMECH)*, 2024
- Shiqi Zhang, Piyush Khandelwal, and Peter Stone, **iCORPP: Interleaved Commonsense Reasoning and Probabilistic Planning on Robots**, *Robotics and Autonomous Systems (RAS), Special Issue on Semantic Policy and Action Representations for Autonomous Robots (SPAR)*, January 2024
- Yan Ding, Xiaohan Zhang, Saeid Amiri, Nieqing Cao, Hao Yang, Andy Kaminski, Chad Esselink, and Shiqi Zhang, **Integrating Action Knowledge and LLMs for Task Planning and Situation Handling in Open Worlds**, *Autonomous Robots (AURO), Special Issue on Large Language Models in Robotics*, 2023
- Keting Lu, Yan Cao, Xiaoping Chen, and Shiqi Zhang, **Efficient Dialog Policy Learning with Hindsight, User Modeling, and Adaptation**, *IEEE Transactions on Cognitive and Developmental Systems (TCDS)*, Volume 15, Issue 2, pp 395-408, June 2023

- Mohammad Shokrolah Shirazi, Brendan Tran Morris, and Shiqi Zhang, **Intersection Analysis Using Computer Vision Techniques with SUMO, Intelligent Transportation Infrastructure**, *Intelligent Transportation Infrastructure*, 10 May 2023
- Xiaohan Zhang, Saeid Amiri, Jivko Sinapov, Jesse Thomason, Peter Stone, and Shiqi Zhang, **Multimodal Embodied Attribute Learning by Robots for Object-Centric Action Policies**, *Autonomous Robots (AURO), Special Issue on 2021 Robotics: Science and Systems*, Vol 47, pp 505-528 March 29, 2023
- Shiqi Zhang, and Mohan Sridharan, **A Survey of Knowledge-based Sequential Decision Making under Uncertainty**, *AI Magazine (AIM)*, Volume 43, Issue 2 (Summer Issue), pp 249-266, 2022
- Shih-Yun Lo, Shiqi Zhang, and Peter Stone, **The PETLON Algorithm to Plan Efficiently for Task-Level-Optimal Navigation**, *Journal of Artificial Intelligence Research (JAIR)*, Conference Award Track, Vol 69, pp 471-500, 2020
- Yuqian Jiang, Harel Yedidsion, Shiqi Zhang, Guni Sharon, and Peter Stone, **Multi-Robot Planning with Conflicts and Synergies**, *Autonomous Robots (AURO)*, Volume 43, Issue 8, pp 2011-2032, 2019
- Mohan Sridharan, Michael Gelfond, Shiqi Zhang, and Jeremy Wyatt, **REBA: a Refinement-Based Architecture for Knowledge Representation and Reasoning in Robotics**, *Journal of Artificial Intelligence Research (JAIR)*, Volume 65, pp 87-180, 2019
- Yuqian Jiang, Shiqi Zhang, Piyush Khandelwal, and Peter Stone, **Task Planning in Robotics: an Empirical Comparison of PDDL-based and ASP-based Systems**, *Frontiers of Information Technology and Electronic Engineering, Special Issue on Intelligent Robots*, Volume 20, Issue 3, pp 363-373, 2019
- Piyush Khandelwal, Shiqi Zhang, Jivko Sinapov, Matteo Leonetti, Jesse Thomason, Fangkai Yang, and others, **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 Full Conference Papers

- David DeFazio, Yohei Hayamizu, and Shiqi Zhang, **Learning Quadruped Locomotion Policies using Logical Rules**, *The International Conference on Automated Planning and Scheduling (ICAPS)*, Banff, Alberta, Canada, June 1-6, 2024
- Issei Saito, Tomoaki Nakamura, Akira Taniguchi, Tadahiro Taniguchi, Yohei Hayamizu, and Shiqi Zhang, **Emergence of Continuous Signals as Shared Symbols Through Emergent Communication**, *IEEE International Conference on Development and Learning (ICDL)*, Austin TX, USA, May 20-23, 2024
- Arjun Majumdar*, Anurag Ajay*, Xiaohan Zhang*, Pranav Putta, Sriram Yenamandra, Mikael Henaff, Sneha Silwal, Paul Mcvay, Oleksandr Maksymets, Sergio Arnaud, Karmesh Yadav, Qiyang Li, Ben Newman, Mohit Sharma, Vincent Berges, Shiqi Zhang, Pulkit Agrawal, Yonatan Bisk, Dhruv Batra, Mrinal Kalakrishnan, Franziska Meier, Chris Paxton, Sasha Sax, Aravind Rajeswaran, **OpenEQA: Embodied Question Answering in the Era of Foundation Models**, *The IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR)*, Seattle WA, USA, Jun 17-21, 2024
- Stephanie Tulk Jesso, Christopher Greene, Shiqi Zhang, Amy Booth, Michael DiFabio, Grace Babalola, Adeola Adegbemijo, and Sumantra Sarkar, **On the potential for human-centered, cognitively inspired AI to bridge the gap between optimism and reality for autonomous robotics in healthcare: a respectful critique**, *International Symposium on Human Factors and Ergonomics in Health Care*, Chicago, IL, March 24-27, 2024

- David DeFazio, Eisuke Hirota, and Shiqi Zhang, **Seeing-Eye Quadruped Navigation with Force Responsive Locomotion Control**, *The Conference on Robot Learning (CoRL),* Atlanta, GA, November 6-9, 2023
- Yan Ding*, Xiaohan Zhang*, Chris Paxton, and Shiqi Zhang, **Task and Motion Planning with Large Language Models for Object Rearrangement**, *IEEE/RSJ International Conference on Intelligent Robots (IROS),* Detroit MI, October 1-5, 2023
- Yohei Hayamizu, Zhou Yu, and Shiqi Zhang, **Learning Joint Policies for Human-Robot Dialog and Co-Navigation**, *IEEE/RSJ International Conference on Intelligent Robots (IROS),* Detroit MI, October 1-5, 2023
- Xiaohan Zhang, Yifeng Zhu, Yan Ding, Yuqian Jiang, Yuke Zhu, Peter Stone, and Shiqi Zhang, **Symbolic State Space Optimization for Long Horizon Mobile Manipulation Planning**, *IEEE/RSJ International Conference on Intelligent Robots (IROS),* Detroit MI, October 1-5, 2023
- Cheng Cui, Saeid Amiri, Yan Ding, Xingyue Zhan, and Shiqi Zhang, **Learning to Reason about Contextual Knowledge for Planning under Uncertainty**, *The Conference on Uncertainty in Artificial Intelligence (UAI),* Pittsburgh, USA, August 1-3, 2023
- Kishan Chandan, Jack Albertson, and Shiqi Zhang, **Learning Visualization Policies of Augmented Reality for Human-Robot Collaboration**, *The Conference on Robot Learning (CoRL),* Auckland, New Zealand, December 14-18, 2022
- Xiaohan Zhang, Yifeng Zhu, Yan Ding, Yuke Zhu, Peter Stone, and Shiqi Zhang, **Visually Grounded Task and Motion Planning for Mobile Manipulation**, *IEEE International Conference on Robotics and Automation (ICRA),* Philadelphia, PA, May 23-27, 2022
- Saeid Amiri, Kishan Chandan, and Shiqi Zhang, **Reasoning with Scene Graphs for Robot Planning under Partial Observability**, *IEEE International Conference on Robotics and Automation (ICRA), Published in IEEE Robotics and Automation Letters (RA-L),* Philadelphia, PA, May 23-27, 2022
- Yan Ding, Xiaohan Zhang, Xingyue Zhan, and Shiqi Zhang, **Learning to Ground Objects for Robot Task and Motion Planning**, *IEEE International Conference on Robotics and Automation (ICRA), Published in IEEE Robotics and Automation Letters (RA-L),* Philadelphia, PA, May 23-27, 2022
- Haodi Zhang, Zhichao Zeng, Keting Lu, Kaishun Wu, and Shiqi Zhang, **Efficient Dialog Policy Learning by Reasoning with Contextual Knowledge**, *The Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI),* Vancouver, BC, Canada, Feb 22-Mar 1, 2022
- Kishan Chandan, Jack Albertson, Xiaohan Zhang, Xiaoyang Zhang, Yao Liu, and Shiqi Zhang, **Learning to Guide Human Attention on Mobile Telepresence Robots with 360 Vision**, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS),* A Virtual Event, Sept 27-Oct 1, 2021
- Hao Yang, Tavan Eftekhar, Chad Esselink, Yan Ding, and Shiqi Zhang, **Task and Situation Structures for Case-based Planning**, *International Conference on Case-Based Reasoning (ICCBR),* Salamanca, Spain, September 13-16, 2021
- Yohei Hayamizu, Saeid Amiri, Kishan Chandan, Keiki Takadama, and Shiqi Zhang, **Guiding Robot Exploration in Reinforcement Learning via Automated Planning**, *International Conference on Automated Planning and Scheduling (ICAPS),* Guangzhou, China, August 2-13, 2021
- Xiaohan Zhang, Jivko Sinapov, and Shiqi Zhang, **Planning Multimodal Exploratory Actions for Online Robot Attribute Learning**, *The Robotics: Science and System Conference (RSS),* A Virtual Event, July 12-16, 2021
- Kishan Chandan, Vidisha Kudalkar, Xiang Li, and Shiqi Zhang, **ARROCH: Augmented Reality for Robots Collaborating with a Human**, *IEEE International Conference on Robotics and Automation (ICRA),* Xi'an, China, May 30-June 5, 2021
- Yan Ding, Xiaohan Zhang, Xingyue Zhan, and Shiqi Zhang, **Task-Motion Planning for Safe and Efficient Urban Driving**, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Las Vegas, NV, October 25-29, 2020

- Yohei Hayamizu, Saeid Amiri, Kishan Chandan, Shiqi Zhang, Keiki Takadama, **Exploration Strategy for Model-based Reinforcement Learning with Automated Planning (in Japanese)**, *Forum on Information Technology*, Hokkaido University Sapporo Campus, Japan, Sept 1-3, 2020
- Keting Lu, Shiqi Zhang, Peter Stone, and Xiaoping Chen, **Learning and Reasoning for Robot Dialog and Navigation Tasks**, *The Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL)*, Special Session on Situated Dialogue with Virtual Agents and Robots, July 1-3, 2020
- Yan Cao, Keting Lu, Xiaoping Chen, and Shiqi Zhang, **Adaptive Dialog Policy Learning with Hindsight and User Modeling**, *The Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL)*, July 1-3, 2020
- Saeid Amiri, Mohammad Shirazi, and Shiqi Zhang, **Learning and Reasoning for Robot Sequential Decision Making under Uncertainty**, *The Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI)*, New York, New York, USA, February 2020 (Oral, 5.2% acceptance rate)
- Saeid Amiri, Sujay Bajracharya, Cihangir Goktolga, Jesse Thomason, and Shiqi Zhang, **Augmenting Knowledge through Statistical, Goal-oriented Human-Robot Dialog**, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Macau, China, November 2019
- Yuqian Jiang, Fangkai Yang, Shiqi Zhang, and Peter Stone, **Task-Motion Planning with Reinforcement Learning for Adaptable Mobile Service Robots**, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Macau, China, November 2019
- Yi Wang, Shiqi Zhang, and Joohyung Lee, **Bridging Commonsense Reasoning and Probabilistic Planning via a Probabilistic Action Language**, *The 35th International Conference on Logic Programming (ICLP)*, Special Issue of TPLP, Las Cruces, New Mexico, September 2019
- Keting Lu, Shiqi Zhang, and Xiaoping Chen, **Goal-oriented Dialogue Policy Learning from Failures**, *The Thirty-Third AAAI Conference on Artificial Intelligence (AAAI)*, Honolulu, Hawaii, USA, January 27 - February 1, 2019
- Saeid Amiri, Suhua Wei, Shiqi Zhang, Jivko Sinapov, Jesse Thomason, and Peter Stone, **Multi-modal Predicate Identification using Dynamically Learned Robot Controllers**, *International Joint Conference on Artificial Intelligence (IJCAI)*, Stockholm, Sweden, 2018
- Shih-Yun Lo, Shiqi Zhang, and Peter Stone, **PETLON: Planning Efficiently for Task-Level-Optimal Navigation**, *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Stockholm, Sweden, 2018 **[Best Robotics Paper]**
- 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 Sytems (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
- 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
  Highlighted in Press Conference (4/575); Covered by CXOToday, CIO and H+ in July 2015
- 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

- 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**, *IEEE International Conference on Development and Learning (ICDL)*, 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
- Xiang Li, Mohan Sridharan and Shiqi Zhang, **Autonomous Learning of Vision-based Layered Object Models on Mobile Robots**, *IEEE 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**, *IEEE 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 (ICNC)*, 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 Abstract Conference Papers

- Chelsea Zou, Kishan Chandan, Yan Ding, and Shiqi Zhang, **A Decision Framework for AR, Dialogue and Eye Gaze to Enhance Human-Robot Collaboration**, *the 19th Annual ACM/IEEE International Conference on Human Robot Interaction (HRI)*, Boulder, Colorado, USA, March 11-15, 2024 (Late-Breaking Reports)
- Kishan Chandan, Jack Albertson, and Shiqi Zhang, **Learning Visualization Policies of Augmented Reality for Human-Robot Collaboration**, *International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, Virtual Event, 2022
- Mohan Sridharan, Michael Gelfond, Shiqi Zhang, and Jeremy Wyatt, **REBA: A Refinement-Based Architecture for Knowledge Representation and Reasoning in Robotics**, *The 17th Conference on Principles of Knowledge Representation and Reasoning (KR)*, Recent Published Research Track, 2020
- 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
- Shiqi Zhang, Forrest Sheng Bao and Mohan Sridharan, **Combining Probabilistic Planning and Logic Programming on Mobile Robots**, *The Twenty-Sixth AAAI Conference on Artificial Intelligence (AAAI)*, Student Abstract Track, Toronto, Canada, 2012

Refereed Workshop Papers

- David DeFazio, Yohei Hayamizu and Shiqi Zhang, **Learning Quadruped Locomotion Policies using Logical Rules**, *The RLC 2024 Worskhop on Interpretable Policies in Reinforcement Learning (InterpPol)*, Amherst MA, August 9, 2024
- Xiaohan Zhang, Zainab Altaweel, Yohei Hayamizu, Yan Ding, Saeid Amiri, Shiqi Zhang, **DKPrompt: Domain Knowledge Prompting Vision-Language Models**, *The CVPR 2024 Embodied AI (EAI) Workshop*, Seattle, WA, on June 18, 2024
- David DeFazio, Yohei Hayamizu and Shiqi Zhang, **Learning Quadruped Locomotion Policies using Logical Rules**, *the ICAPS 2024 Workshop on Planning and Robotics (PlanRob)*, Banff, Alberta, Canada, on June 3rd, 2024
- Arjun Majumdar*, Anurag Ajay*, Xiaohan Zhang*, Pranav Putta, Sriram Yenamandra, Mikael Henaff, Sneha Silwal, Paul McVay, Oleksandr Maksymets, Sergio Arnaud, Karmesh Yadav, Qiyang Li, Benjamin Newman, Mohit Sharma, Vincent-Pierre Berges, Shiqi Zhang, Pulkit Agrawal, Yonatan Bisk, Dhruv Batra, Mrinal Kalakrishnan, Franziska Meier, Chris Paxton, Alexander Sax, Aravind Rajeswaran, **OpenEQA: Embodied Question Answering in the Era of Foundation Models**, *ICRA 2024: 2nd Workshop on Mobile Manipulation and Embodied Intelligence*, Yokohama, Japan, May 13th, 2024
- Yan Ding, Xiaohan Zhang, Saeid Amiri, Nieqing Cao, Hao Yang, Andy Kaminski, Chad Esselink, and Shiqi Zhang, **Integrating action knowledge and LLMs for task planning and situation handling in open worlds**, *The 2023 CoRL Workshop on Language and Robot Learning Language as Grounding*, Atlanta, USA, Nov 6, 2023
- David DeFazio, Eisuke Hirota, Shiqi Zhang, **Seeing-Eye Quadruped Navigation with Force Responsive Locomotion Control**, *The 2023 CoRL Workshop on Bridging the Gap between Cognitive Science and Robot Learning in the Real World*, Atlanta, USA, Nov 6, 2023
- David DeFazio, Yohei Hayamizu, and Shiqi Zhang, **Learning Diverse Quadruped Locomotion Gaits via Reward Machines**, *The 2023 CoRL Workshop on Towards Generalist Robots: Learning Paradigms for Scalable Skill Acquisition*, Atlanta, USA, Nov 6, 2023
- Chelsea Zou, Kishan Chandan, Yan Ding, and Shiqi Zhang, **ARDIE: AR, Dialogue, and Eye Gaze Policies for Human-Robot Collaboration**, *The 2023 ICRA Workshop on CoPerception: Collaborative Perception and Learning*, 2023
- Xiaohan Zhang, Yan Ding, Saeid Amiri, Hao Yang, Andy Kaminski, Chad Esselink, and Shiqi Zhang, **Grounding Classical Task Planners via Vision-Language Models**, *The 2023 ICRA Workshop on Robot Execution Failures and Failure Management Strategies*, 2023
- Kishan Chandan, Jack Albertson, and Shiqi Zhang, **Learning Visualization Policies of Augmented Reality for Human-Robot Collaboration**, *The CoRL 2022 Workshop on Aligning Robot Representations with Humans,* Auckland, New Zealand, December 14-18, 2022
- Shiqi Zhang, and Peter Stone, **Interleaved Commonsense Reasoning and Probabilistic Planning on Robots: an Abstract**, *The Fifth IROS Workshop on Semantic Policy and Action Representations for Autonomous Robots (SPAR)*, Virtual, September 27, 2021 **[Audience Choice Award (2nd Place)]**
- Shiqi Zhang, and Mohan Sridharan, **Knowledge-based Sequential Decision Making under Uncertainty: A Survey**, *The IJCAI 2021 Workshop on Robust and Reliable Autonomy in the Wild (R2AW)*, a Virtual Event, August 19, 2021
- Yohei Hayamizu, Saeid Amiri, Kishan Chandan, Keiki Takadama, Shiqi Zhang, **Guiding Robot Exploration in Reinforcement Learning via Automated Planning: an Abstract**, *The 2nd ICAPS workshop on bridging the gap between AI planning & reinforcement learning (PRL)*, Virtual, Aug 5, 2021
- Hao Yang, Tavan Eftekhar, Chad Esselink, Yan Ding, and Shiqi Zhang, **Task and Situation Structures for Service Agent Planning**, *The Fourth ICAPS Workshop on Hierarchical Planning (HPlan)*, a Virtual Event, August 6, 2021
- David DeFazio, and Shiqi Zhang, **Learning Quadruped Locomotion Policies with Reward Machines,** *The RSS 2021 Workshop on Declarative and Neurosymbolic Representations in Robot Learning and Control,* A Virtual Event, July 15, 2021

- Cheng Cui, Saeid Amiri, Xingyue Zhan, and Shiqi Zhang, **Perceptual Reasoning and Interactive Learning for Planning Urban Driving Behaviors,** *The RSS 2021 Workshop on Declarative and Neurosymbolic Representations in Robot Learning and Control,* A Virtual Event, July 15, 2021
- Xiaohan Zhang, Jivko Sinapov, and Shiqi Zhang, **Information-Theoretic Reward Shaping for Multimodal Object Attribute Learning**, *The RSS 2021 Workshop on Integrating Planning and Learning,* A Virtual Event, July 12, 2021
- Yohei Hayamizu, Saeid Amiri, Kishan Chandan, Keiki Takadama, and Shiqi Zhang, **Efficient Exploration in Reinforcement Learning Leveraging Automated Planning**, *The 3rd Robot Learning Workshop: Grounding Machine Learning Development in the Real World*, with NeurIPS-2020, Dec 11, 2020
- Mohan Sridharan, Michael Gelfond, Shiqi Zhang, and Jeremy Wyatt, **REBA: A Refinement-Based Architecture for Knowledge Representation and Reasoning in Robotics**, *The ECAI-2020 Workshop on the scientific foundations of trustworthy AI, integrating learning, optimisation and reasoning (TAILOR)*, Santiago de Compostela, Spain, August 29-30, 2020
- Yan Ding, Xiaohan Zhang, Xingyue Zhan, and Shiqi Zhang, **Task-Motion Planning for Safe and Efficient Urban Driving**, *The RSS-2020 Workshop on Interaction and Decision-Making in Autonomous-Driving*, Virtual Event, July 13, 2020
- Kishan Chandan, Xiaohan Zhang, Jack Albertson, Xiaoyang Zhang, Yao Liu and Shiqi Zhang, **Guided 360-Degree Visual Perception for Mobile Telepresence Robots**, *The RSS-2020 Workshop on Closing the Academia to Real-World Gap in Service Robotics*, Virtual Event, July 13, 2020
- Kishan Chandan, Xiang Li, and Shiqi Zhang, **Negotiation-based Human-Robot Collaboration via Augmented Reality**, *The 2019 AAAI Fall Symposium on Artificial Intelligence for Human-Robot Interaction (AI-HRI)*, Arlington, Virginia USA, November 7-9, 2019
- Yi Wang, Shiqi Zhang, and Joohyung Lee, **Bridging Commonsense Reasoning and Probabilistic Planning via a Probabilistic Action Language**, *The Sixth Workshop on Probabilistic Logic Programming (PLP)*, co-located with ICLP, Las Cruces, New Mexico, USA, September 20-25, 2019
- Yuqian Jiang, Fangkai Yang, Shiqi Zhang, and Peter Stone, **Task-Motion Planning with Reinforcement Learning for Adaptable Mobile Service Robots**, *The Seventh ICAPS Workshop on Planning and Robotics (PlanRob)*, co-located with ICAPS, Berkeley CA, USA, July 11, 2019
- Shiqi Zhang, **Reasoning about Actions for Planning in Robotics**, *Workshop on Reasoning about Actions and Processes: Highlights of Recent Advances*, co-located with International Conference on Principles of Knowledge Representation and Reasoning (KR), Tempe, AZ, 2018 (one-page position paper)
- Saeid Amiri, Mohammad Shirazi, and Shiqi Zhang, **Leveraging Supervised Learning and Automated Reasoning for Robot Sequential Decision-Making**, *Workshop on Integrating learning of Representations and models with deductive Reasoning*, co-located with KR, Tempe, AZ, 2018
- Sujay Bajracharya, Saeid Amiri, Jesse Thomason, and Shiqi Zhang, **Simultaneous Intention Estimation and Knowledge Augmentation via Human-Robot Dialog**, *Workshop on Models and Representations for Natural Human-Robot Communication*, co-located with RSS, Pittsburgh, PA, 2018
- Saeid Amiri, Suhua Wei, Shiqi Zhang, Jivko Sinapov, Jesse Thomason, and Peter Stone, **Robot Behavioral Exploration and Multi-modal Perception using Dynamically Constructed Controllers**, *The 2018 AAAI Spring Symposium on Integrating Representation, Reasoning, Learning, and Execution for Goal Directed Autonomy*, Stanford University, CA, Mar. 26-28, 2018.
- Shiqi Zhang and Peter Stone, **Integrated Commonsense Reasoning and Probabilistic Planning**, *Workshop on Planning and Robotics (PlanRob)*, co-located with ICAPS, Pittsburgh, PA, 2017
- Shiqi Zhang, Jivko Sinapov, Suhua Wei and Peter Stone, **Robot Behavioral Exploration and Multi-modal Perception using POMDPs**, *The AAAI 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*, co-located with IJCAI, New York City, New York, USA, 2016
- Shiqi Zhang, Yuqian Jiang, Guni Sharon and Peter Stone, **Multirobot Symbolic Planning under Temporal Uncertainty**, *Workshop on Autonomous Mobile Service Robots*, co-located with IJCAI, New York City, New York, 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*, co-located 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*, co-located 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)*, co-located 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)*, co-located with ICLP, Vienna, Austria, 2014
- Shiqi Zhang, Mohan Sridharan, Michael Gelfond and Jeremy Wyatt, **KR^3: An Architecture for Knowledge Representation and Reasoning in Robotics**, *The 15th International Workshop on Non-Monotonic Reasoning (NMR)*, co-located 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)*, co-located 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)*, co-located 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)*, co-located 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*, co-located 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*, co-located 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*, co-located with MobiQuitous, Dublin, Ireland, 2008

Workshop Proposals (Peer Reviewed, Accepted)

- Yifeng Zhu, Mengdi Xu, Shiqi Zhang, and Bo Liu, **The 2024 RSS Workshop on Lifelong Robot Learning: Generalization, Adaptation, and Deployment with Large Models**, Delft, the Netherlands, July 19th, 2024

- Yantian Zha, Xuesu Xiao, Oya Celiktutan, Peng Gao, Akshara Rai, Shiqi Zhang, and Martina Zambelli, **The CoRL 2023 Workshop on Bridging the Gap between Cognitive Science and Robot Learning in the Real World: Progresses and New Directions**, Atlanta, GA, November 6, 2023
- Shiqi Zhang, Yuqian Jiang, and Matteo Leonetti, **The RSS 2021 Workshop on Declarative Knowledge in Learning and Control of Robot Behaviors**, *The Robotics: Science and Systems Conference (RSS)*, An Online Event, July 12-16, 2021
- Abdelghani Chibani, Craig Schlenoff, Yacine Amirat, Shiqi Zhang, Jong-Hwan Kim, and Ferhat Attal, **Trends and advances in machine learning and automated reasoning for intelligent robots and systems**, *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Online, Oct 29, 2020
- Karinne Ramirez Amaro, Yezhou Yang, Eren Erdal Aksoy, and Shiqi Zhang, **Semantic Policy and Action Representations for Autonomous Robots**, *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Macau, China, November 4th or 8th, 2019
- 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 (Workshop Canceled)

Tutorial Proposals (Peer Reviewed, Accepted)

- Shiqi Zhang, and Mohan Sridharan, **Knowledge-based Sequential Decision-Making under Uncertainty**, *The AAAI 2019 Tutorial Program (0.25 day)*, Honolulu, Hawaii, USA, 2019

Unrefereed Publications

- Christopher Amato, Haitham Bou Ammar, Elizabeth Churchill, Erez Karpas, Takashi Kido, Mike Kuniavsky, WF Lawless, Francesca Rossi, Frans A Oliehoek, Stephen Russell, Keiki Takadama, Siddharth Srivastava, Karl Tuyls, Philip Van Allen, K Brent Venable, Peter Vrancx, and Shiqi Zhang, **Reports on the 2018 AAAI Spring Symposium Series**, *AI Magazine*. 39(4):29-35, 2018

Patents

- Shiqi Zhang, and Yan Ding, **Task-Motion Planning for Safe and Efficient Urban Driving**, Provisional Patent Application (Number 63/200,431) filed on 3/7/2021
- Shiqi Zhang, and Kishan Chandan, **Negotiation-based Human-Robot Collaboration via Augmented Reality**, US Patent 11,958,183, issued on Apr 16, 2024
  This patent was picked up by the University Technology Licensing Program (UTLP), a Joint Technology Licensing Program of 15 Leading Research Universities

Student Mentoring

Postdoc

- Saeid Amiri, (May - August 2022)

Doctoral Committee Supervisor

- **Dr. David DeFazio**, December 2024
  "*Legged Locomotion and Collaborative Decision Making in Human-Robot Teams*"
  Dissertation committee: Weiyi Meng, Yingxue Zhang, Kaiyan Yu (Mechanical Engineering)
  First Job after Binghamton: **Machine Learning Engineer, CoVar (Durham, NC)**

- **Dr. Xiaohan Zhang**, May 2024
  "*Symbol Grounding for Task and Motion Planning in Robotics*"
  Dissertation committee: Lijun Yin, Jayson Boubin, Mohan Sridharan (University of Edinburgh, UK)
  2024 PhD Excellence in Computer Science Research Award
  First Job after Binghamton: **Research Scientist, Boston Dynamics AI Institute**
- **Dr. Yan Ding**, May 2024
  "*Task and Motion Planning for Robots in Open Worlds*"
  Dissertation committee: Patrick Madden, Zhongfei (Mark) Zhang, Ye Zhao (Georgia Institute of Technology)
  2024 PhD Excellence in Computer Science Research Award
  First Job after Binghamton: **Researcher, Shanghai AI Lab**
- **Dr. Kishan Chandan**, May 2023
  "*Bridging the Observability Gap: Augmented Reality Policies for Human Robot Collaboration*"
  Dissertation committee: Lijun Yin, Adnan Siraj Rakin, and Jivko Sinapov (Tufts University)
  First Job after Binghamton: **Postdoc, Amazon Robotics**
- **Dr. Saeid Amiri**, May 2022
  "*Knowledge-based Robot Sequential Decision-Making under Partial Observability*"
  Dissertation committee: Sujoy Sikdar, Lei Yu, and Christopher Amato (Northeastern University)
  2022 PhD Excellence in Computer Science Research Award
  First Job after Binghamton: **Research Scientist, J.P. Morgan AI Research**
- Current PhD Students: Zainab Altaweel (Fall 2023), Yohei Hayamizu (Fall 2021),

Doctoral Committee Member (Internal)

- **Dr. Senqi Cao**
  "Advancing Deep Neural Network Reliability: Uncertainty Quantification and Enhanced Training Methods
  Department of Computer Science, SUNY Binghamton (Committee Chair: Zhongfei Zhang)
  Passed defense on 12/13/2023
- **Dr. Pubali Mukherjee**
  "What makes a robot human? Exploring the humanness of service robots"
  School of Management, SUNY Binghamton (Committee Chair: Manoj Agarwal)
  Passed defense on 4/29/2023
- **Dr. Xiang Deng**
  "Study on Model Compression and Dynamics-ware Learning Strategies"
  Department of Computer Science, SUNY Binghamton (Committee Chair: Mark Zhang)
  Passed defense on 12/1/2022
- **Dr. Elliot Way**
  "Multi-agent Reinforcement Learning for Numerical Modeling"
  Department of Computer Science, SUNY Binghamton (Committee Chair: Lei Yu)
  Passed defense on 5/3/2022
- **Dr. Jerome (Dinal) Herath**
  "Empowering Artificial Intelligence for Cybersecurity Applications"
  Department of Computer Science, SUNY Binghamton (Committee Chairs: Ping Yang and Guanhua Yan)
  Passed defense on 5/2/2022
- **Dr. Umur Ciftci**
  "Physiology-Based Synthesis, Analysis, and Authentication of Portrait Videos for Deep Fake Detection"
  Department of Computer Science, SUNY Binghamton (Committee Chair: Lijun Yin)
  Passed defense on 8/10/2021
- **Dr. Andrew E Cohen**
  "Diverse Exploration in Reinforcement Learning"

Department of Computer Science, SUNY Binghamton (Committee Chair: Lei Yu)
Passed defense on 11/26/2019

- Xinbo Zhao, "Offline Reinforcement Learning in Urban scenarios", Ph.D. Student of Computer Science, SUNY Binghamton, RPE on 02/25/2025
  Chair: Yingxue Zhang
- Manjari Rudra, "The Which, What and Why of Effective Questions in Interviews, and Also the Who", Ph.D. Student of Computer Science, SUNY Binghamton, Prospectus on ??/??/2023
  Chair: Sujoy Sikdar
- Vishnu Veeraraghavan, "TOPIC TO BE DETERMINED", Ph.D. Student of Mechanical Engineering, SUNY Binghamton, Prospectus on ??/??/20??
  Chair: Kaiyan Yu
- Shiming Fang, "Motion planning and task planning of agile autonomous vehicles", Ph.D. Student of Mechanical Engineering, SUNY Binghamton, RPE on 6/15/2022
  Chair: Kaiyan Yu
- Jiaxu Song, "3D manipulation of autonomous fleets of micro- and nanoagents", Ph.D. Student of Mechanical Engineering, SUNY Binghamton, RPE on 1/20/2022
  Chair: Kaiyan Yu
- Joon-young Gwak, "Reinforcement Learning, a Real-World Application, and Meta Reinforcement Learning", Ph.D. Student of Computer Science, SUNY Binghamton, RPE on 12/6/2021
  Chair: Lei Yu
- Utkucan Balci, "A Data-driven Exploration of Niche Web Community Behavior", Ph.D. Student of Computer Science, SUNY Binghamton, RPE on 12/17/2020
  Chair: Jeremy Blackburn
- John Henry (Jack) Burns, "Adaptive Variables for Declarative UAV Planning", Ph.D. student of Computer Science, SUNY Binghamton, RPE on 12/1/2020
  Chair: David Liu
- Xiang Zhang, "3D Face Reconstruction from 2D images and Video", Ph.D. student in Computer Science, SUNY Binghamton, RPE on 8/16/2019
  Chair: Lijun Yin
- Xilin Li, "Control and Motion Planning of Autonomous Vehicles with Aggressive Maneuvers", Ph.D. student in Mechanical Engineering, SUNY Binghamton, RPE on 8/6/2019
  Chair: Kaiyan Yu

Doctoral Committee Member (External)

- **Yash Shukla**
  "Enhancing Sample-Efficiency in Reinforcement Learning agents through Symbolic Reasoning"
  Department of Computer Science, Tufts University (Primary Advisor: Jivko Sinapov)
  Planned defense in May 2025
- **Dr. Daoming Lyu**
  "Towards Interpretability and Human-in-the-Loop in Sequential Decision-Making"
  Department of Computer Science, Auburn University (Primary Advisor: Bo Liu)
  Passed defense on 3/29/2022

Master's Students (Thesis Supervisor)

- **Cheng Cui**, Master's of Computer Science, SUNY Binghamton, Spring and Fall 2021
  Thesis: "Learning to Reason about Contextual Knowledge for Planning under Uncertainty"
  First Job after Binghamton: Software Engineer, **Cognex Corporation**, Natick, MA

Master's Students (Thesis Committee Member)

- Yongxiang Cai, Master's of Computer Science, SUNY Binghamton (Chair: Yincheng Jin)
  Thesis: "Innovative American Sign Language Translation and Learning Platform Using Smartglass", Defended on 12/09/2024
- Zain-ul-Abideen Nasir, Master's of Computer Science, SUNY Binghamton (Chair: Jayson Boubin)
  Thesis: "Network-Aware Path Planning for Edge Assisted UAV Swarms", Defended on 12/03/2024
- Alexander J Strong, Master's of Computer Science, SUNY Binghamton (Chair: David Yu Liu)
  Thesis: "Compiler-Directed Regulation Enforcement for UAVs", Defended on 4/27/2022
- Joseph R Sanchez, Master's of Computer Science, SUNY Binghamton (Chair: David Yu Liu)
  Thesis: "Kaze: Testing UAV Systems in the Wind with Genetic Algorithms", Defended on 12/7/2021
- Lei Wang, Master's in Electrical Engineering, Cleveland State U, December 2017 (Chair: Zhiqiang Gao)
  Thesis: "Advanced Line-Follower Robot"

Master's Students (Termination Project)

- Theodore Tourneux (2023 Spring), Kevin Wallace (2022 Spring), Tomoki Noguchi (2022 Spring), Nick Abate (2021 Spring), Wenzhe Leng (2020 Fall), Xiaohan Zhang (Spring 2020), Kishan Chandan (Spring 2019), Danye Luo (2018), Suhua Wei (2017)

Undergraduate Students, Freshman Research Immersion (FRI)

- Adam Young, Jake Holmberg, Noa Rogoszinski, "*Robot Manipulation in Constrained Environments using V-Rep,*" SUNY Binghamton, Spring and Fall 2020
- Bryana Thompson, Daniel Tierney, Jessica Jurcsak, Thomas Gruszecki, "*Robot Mobile Visual Navigation in AI2THOR,*" SUNY Binghamton, Spring and Fall 2020
- Jack Albertson and Isaiah Farrell, "*Controlling a robot using Eye Gaze for Human-Robot Interaction,*" SUNY Binghamton, Spring and Fall 2019
- CS378: FRI on Autonomous Intelligent Robotics. Supervised ten undergraduate students for one semester on projects including robot patrolling in an office environment and human-robot interaction through RGB-D-based gesture recognition, UT Austin, Spring 2014

Undergraduate Students, NSF Research Experiences for Undergraduates (REU)

- Eisuke Hirota, REU Undergraduate Student of Binghamton University, "*Reinforcement Learning for Quadruped Robot Locomotion*", Summer 2023
- Chelsea Zou, REU Undergraduate Student of Binghamton University, "*ARDIE: AR, Dialogue, and Eye Gaze Policies for Human-Robot Collaboration*", Summer 2022
- Nicholas Pellegrino, REU Undergraduate Student of Binghamton University, "*Human-Robot Dialog and Robot Multimodal Perception*", Spring and Fall 2021
  Chancellor's Award for Student Excellence from the SUNY System (<0.01% received) in 2022
- Jack Albertson, REU Undergraduate Student of Binghamton University, "*Leveraging 360-Degree Vision for Human-Robot Interaction*", Summer 2020 - Fall 2021
- Derrick Lam, REU Undergraduate Student of Binghamton University, "*Mobile Robot Simulation using the UT-Austin BWI Codebase*", Summer 2020

——— I was a Graduate Student Mentor of the following students ———

- Patricia Andrews, REU Undergrad Student in Colorado College, "*Integrating ASP-based Planning and Diagnosis with POMDPs for KRR on Mobile Robots*", Summer 2013
- Olatide Omojaro, REU Undergraduate Student in Georgia Tech, *Integrating ASP-based Planning and Diagnosis with POMDPs for KRR on Mobile Robots*, Summer 2013

- Christian Washington, REU Undergraduate Student in Louisiana State University, *Decision-Making on Robots using POMDPs and Answer Set Programming*, Summer 2012
- Sabyne Peeler, REU Undergraduate Student in Florida A&M University, *Creating a Stimulating 3D Programming Environment by Integrating Complex Robot Types*, Summer 2012
- David Kari, REU Undergraduate Student in California Baptist University, *Multi-Agent Collaboration on the Nao Platform*, Summer 2011
- Jesse Kawell, REU Undergraduate Student in Samford University,*Multi-Agent Collaboration on the Nao Platform*, Summer 2011
- David R. Seibert, REU Undergraduate Student in Emory University, *Designing Motion Patterns to Increase Effectiveness of the Goal Keeper in Robot Soccer*, Summer 2011

Undergraduate Students, Senior Design Projects

- 2017-2018: UAV-UGV-Human Interaction and Collaboration
  Austin Cassill (Leader), Sujay Bajracharya, William Heeter, and Lakiel Wade
  Nominated for the Best Project Award of CSU by the Department of EECS in 2018
- 2016-2017: Indoor Navigation using Turtlebots
  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
- 2016-2017: Phone-based Campus Navigation
  Dawid Lenard (Leader), Abdinajibi Abdi, Ledis Kodra, Tian Lu, and William Pierce

Undergraduate Students, CS 499 Undergraduate Research, SUNY Binghatmon

- Nicholas Pellegrino, "*Human-Robot Dialog and Robot Multimodal Perception,*" Spring 2021
- Xingyue Zhan, "*Probabilisitc Knowledge Representation, Reasoning, and Learning,*" Fall 2020

Undergraduate Students, Others

- Zain Nasir (2020-2021), Dokyu Lee (2020-2024), Cihangir Goktolga (2018-2019), Sujay Bajracharya (2017-2018), James Doherty (2017-2018), Lakiel Wade (2017-2018)

Visiting Students

- Issei Saito, Master's Student, Department of Mechanical and Intelligent Systems Engineering, University of Electro-Communications (UEC), Japan, 9/1/2023 - 8/10/2024
- Zetong Xuan, Master's Student, Department of Mechanical Engineering, University of Florida (UF), Gainesville, FL, 5/2021 - 8/2021
- Yohei Hayamizu, Master's Student, Department of Informatics, University of Electro-Communications (UEC), Japan, 3/2019 - 1/2020

High School Students

- Tilden Panek, "Robotic Guide Dogs for People with Visual Impairment", Intern, John Jay High School, Cross River, NY, Since March 2024
- Jaron Cui, "Mobile Robot Navigation in Human-inhabited Indoor Environments", Summer Intern, Vestal High School, Vestal, New York, July 2019
- Gopal (Barry) Shukla, "Robot Estimating Human Intentions via Analyzing Motion Trajectories", Senior Project Student, Solon High School, Solon Ohio, May 2018

Teaching

Lecturer

SUNY Binghamton

- Spring 2025: CS 424, CS 524: Intelligent Mobile Robotics
- Fall 2024: CS 465, CS 565: Introduction to Artificial Intelligence (2 sections)
- Summer (2) 2024: CS 465, CS 565: Introduction to Artificial Intelligence (Online)
- Spring 2024: CS 373: Automata Theory and Formal Languages (2 sections)
- Fall 2023: CS 465, CS 565: Introduction to Artificial Intelligence (2 sections)
- Fall 2023: CS 373: Automata Theory and Formal Languages
- Spring 2023: CS 424, CS 524: Intelligent Mobile Robotics
- Fall 2022: CS 465, CS 565: Introduction to Artificial Intelligence
- Spring 2022: CS 424, CS 524: Intelligent Mobile Robotics
- Fall 2021: CS 465, CS 565: Introduction to Artificial Intelligence
- Spring 2021: CS 424, CS 524: Intelligent Mobile Robotics
- Fall 2020: CS 465, CS 565: Introduction to Artificial Intelligence
- Spring 2020: CS 465, CS 565: Introduction to Artificial Intelligence
- Fall 2019: CS 480, CS 580: Intelligent Mobile Robotics
- Spring 2019: CS 465, CS 565: Introduction to Artificial Intelligence
- Fall 2018: CS 480, CS 580: Intelligent Mobile Robotics

Cleveland State University

- Spring 2018: 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

Lecturer (Short Courses, 2-4 Weeks)

- Summer 2024: **Introduction to Artificial Intelligence**
  Ocean University of China, Qingdao, Shandong, China
  Online Course (One week), August 2024
- Summer 2023: **Introduction to Artificial Intelligence**
  Ocean University of China, Qingdao, Shandong, China
  Online Course (One week), August 2023
- Summer 2022: **Introduction to Artificial Intelligence**
  Ocean University of China, Qingdao, Shandong, China
  Online Course (One week), August 2022
- Spring 2021: **Autonomous Intelligent Robotics**
  Lyceum – a Lifelong Learning Institute (LLI), SUNY Binghamton
  Online Course (Three weeks, 1/26 - 2/9), Co-offered with Prof. Kaiyan Yu
- Summer 2019: **Introduction to Artificial Intelligence**
  Shenzhen University, Guangdong, China

Guest Lecturer

- AAAS 380F (Fall 2024): Science of Language & AI, Binghamton University
  My topic: Autonomous Intelligent Robotics, 09/04/2024
- CS 101 (Fall 2023): Professional Skills, Ethics, and CS Trends, Binghamton University
  My topic: Autonomous Intelligent Robotics, 10/24/2023
- CS 101 (Fall 2022): Professional Skills, Ethics, and CS Trends, Binghamton University
  My topic: Autonomous Intelligent Robotics, 11/8/2022
- CS 101 (Fall 2021): Professional Skills, Ethics, and CS Trends, Binghamton University
  My topic: Autonomous Intelligent Robotics, 10/5/2021
- BME 580 (Fall 2020): Artificial Intelligence in Biomedical Engineering, Binghamton University
  My topic: Applications of Artificial Intelligence in Robotics, 11/30/2020
- CS 101 (Fall 2020): Professional Skills, Ethics, and CS Trends, Binghamton University
  My topic: Autonomous Intelligent Robotics, 9/29/2020
- CS 115 (Spring 2019): FRI Image and Acoustic Signal Research Stream, Binghamton University
  My topic: Programming in Intelligent Robotics in 03/2019
- EEC 601 (Fall 2017): EECS Graduate Seminar, Cleveland State University
  My topic: Robot Planning in Everyday Environments in 10/2017
- EEC 581 (Spring 2017): Computer Architecture, Cleveland State University
  My topic: Robot Operating System (ROS) in 04/2017.
- CIS 345 (Fall 2016): Operating System Principles, Cleveland State University
  My topic: Robot Operating System (ROS) in 10/2016.
- UGS 303 (Fall 2015): Foundations of Logical Thought, UT Austin
  My topic: Building-Wide Intelligence (BWI) research to 100 undergraduate students, 10/2015
- CS 378 (Fall 2015): Autonomous Intelligent Robotics, UT Austin
  My topic: Robot Scavenger Hunt Game, 10/2015
- CS 378 (Spring 2014): Autonomous Intelligent Robotics, UT Austin
  My topics (two): 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

Lab Tours and Demonstrations:

- 2024/1/3: Mech-Animal Robotics Team, African Road Elementary School
- 11/4/2022: Legged robot demonstration with Eisuke Hirota, CS Undergraduate Student at the Vestal Hills Elementary School (VHE)
- 10/28/2022: Legged and wheeled robots handing out Halloween candy in front of Union West by Yan Ding and David DeFazio
- 10/30/2021: Robot "dog" hands out Halloween candy at the DeFleur Walkway of Binghamton U by David DeFazio and Yohei Hayamizu. 400k+ views and 100k+ likes `@binghamtonu` at TikTok
- 02/03/2020: Children's Home of Wyoming Conference (Binghamton NY). My students demonstrated our robot arm doing pick-and-place tasks, and our AR/VR interface for human-robot collaboration.

- 04/07/2018: "CSU Spring Open House", the largest visit day of Cleveland State University. My students offered demonstrations using the Segway-based robot.
- 02/17/2018: 80 students (and parents) in the great Cleveland area visited my lab in CSU, in the "Engineer for a Day" event. My students offered demonstrations using the Segway-based robot.
- 01/23/2018: 26 students from Horizon Science Academy Cleveland Middle School (Cleveland OH) visited my lab in CSU. My students demonstrated our Segway-based robot and Bebop 2 Quad-copter.
- 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.
- 2014-2016: Demonstrated Segway-based mobile robots to thousands of visitors from Texas and other states at ExploreUT: "The Biggest Open House in Texas", Austin TX
- 01/25/2015-01/30/2015: AAAI-15 Robotics Exhibition, Austin TX

Judge/Mentor/Volunteer:

- Judge, Academy of Automation, Doctoral Forum of Hong Kong and Macau Areas, Harbin, China, 6/17/2023
- Judge, New York State Science and Engineering Fair (NYSSEF), Regeneron International Science and Engineering Fair (ISEF), Virtual Event due to Covid-19, 2/1/2021 - 2/11/2021
- Mentor, The First Annual Junior Robotics Challenge, SUNY Broome, Broome NY, 3/30/2019
- Judge, Poster Competition of the College of Engineering, Cleveland State University, 10/2017
- Judge, Choose Ohio – Northeast Ohio Consortium Poster Conference, Cleveland OH 04/2017
- Judge, Hub City Regional, FIRST Robotics Competition, Lubbock TX, 2013
- Student Volunteer, IEEE International Conference on Developmental Learning and Epigenetic Robotics (ICDL-EPIROB), San Diego, CA, 2012
- Judge, Get Excited About Robotics (GEAR) Competition, Lubbock TX, 2011
- Museum Guide, Museum of Astronautics, Harbin Institute of Technology, Harbin, China, 2005–2006

Grants

External:

- **Guiding Eyes for the Blind**
  Unrestricted Research Grant, 2024
- **National Science Foundation (NSF)**
  "*Enabling Natural Language and Decision Making Capabilities of Robotic Guide Dogs*"
  Information and Intelligent Systems (IIS), Robust Intelligence, 2024-2025
- **Ford Motor Company**
  University Research Program, 2023-2024
- **DEEP Robotics**
  Gift Equipment, 2023
- **Ford Motor Company**
  University Research Program, 2022-2023
- **Amazon**
  Audience Choice Award, The IROS Workshop on Semantic Policy and Action Representations, 2021
- **Ford Motor Company**
  University Research Program, 2021-2022

- **OPPO Research**
  Faculty Research Award, 2020
- **National Science Foundation (NSF)**
  Research Experiences for Undergraduates (REU) Supplementary, 2020
- **Ford Motor Company**
  University Research Program, 2020-2021
- **National Science Foundation (NSF)**
  "Knowledge-based Robot Sequential Decision Making under Uncertainty"
  National Robotics Initiative 2.0 (NRI), 2019-2023
- **Ford Motor Company**
  University Research Program, 2019-2020

Internal:

- **Community Engagement Faculty Teaching and Research Grant**
  Center for Civic Engagement, Binghamton University, 2024-2025
- **Inclusive Innovation Pitch Competition**
  Office of Entrepreneurship & Innovation Partnerships, Binghamton University
- **CIAPS Seed Grant**
  Center for Imaging, Acoustics, and Perception Science (CIAPS), 2020 (co-PI: Yao Liu)
- **Research Scholarship**
  President's Office, Texas Tech University, 2013
- **Dean's Fellowship**
  College of Engineering, Texas Tech University, 2009-2014

Professional Activities

Organizing Committee Member (Major Events):

- Northeast Robotics Colloquium (NERC), 2025
  Registration Chair
- International Conference on Principles of Knowledge Representation and Reasoning (KR), 2023
  Robotics and Planning Track Co-chair
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2022
  Publication Co-chair

Organizing Committee Member (Workshops, and Competitions):

- The RSS 2024 Workshop on "Lifelong Robot Learning: Generalization, Adaptation, and Deployment with Large Models", July 19th, 2024 (Co-organized with Yifeng Zhu, Mengdi Xu, and Bo Liu) - Co-chair
- The CoRL 2023 Workshop on Bridging the Gap between Cognitive Science and Robot Learning in the Real World: Progresses and New Directions, November 6-9, 2023 (Co-organized with Yantian Zha, Xuesu Xiao, Oya Celiktutan, Peng Gao, Akshara Rai, and Martina Zambelli) – Co-chair
- The RSS 2021 Workshop on Declarative and Neurosymbolic Representations in Robot Learning and Control, a Virtual Event, July 15th, 2021 (7 long papers, 5 short papers, 68 registrations) – Co-chair
- The First Workshop on Trends and Advances in Machine Learning and Automated Reasoning for Intelligent Robots and Systems, co-located with IROS 2020, Las Vegas, NV, October 29th, 2020
- The Fourth Workshop on Semantic Policy and Action Representations for Autonomous Robots (SPAR), co-located with IROS 2019, Macau, China, November 8, 2019 – Co-chair

- The First Eldercare Robot Challenges, a competition co-located with the 28th International Joint Conference on Artificial Intelligence (IJCAI), Macau, China, August 13-16, 2019 – Co-chair
- The AAAI-18 Spring Symposium on Integrating Representation, Reasoning, Learning, and Execution for Goal Directed Autonomy, Stanford, CA, Mar 2018 (25 papers accepted, and 50+ attendees) – Co-chair

Area Chair (AC), Senior Program Committee (SPC) Member:

- International Joint Conference on Artificial Intelligence (IJCAI), 2021 (AC), 2022, 2024, 2025 (AC)
- The AAAI Conference on Artificial Intelligence (AAAI), 2020, 2023, 2024, 2025 (Senior PC for the Main Track; PC for the Senior Member Track)
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2019

Program Committee Member:

Conferences

- The AAAI Conference on Artificial Intelligence (AAAI), 2014, 2015, 2018, 2019, 2021
- International Joint Conference on Artificial Intelligence (IJCAI), 2015, 2016, 2017, 2019, 2020
- Annual Conference Neural Information Processing Systems (NeurIPS), 2017, 2018, 2019, 2020, 2021
- International Conference on Machine Learning (ICML), 2016, 2018, 2019, 2021
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2016, 2020 (Main Track and Demo Track)
- International Conference of the Florida Artificial Intelligence Research Society (FLAIRS), 2019, 2020
- International Conference on Logic Programming (ICLP), Applications Track, 2019, 2020
- International Conference on Robot Learning (CoRL), 2018, 2019, 2020, 2021, 2023
- International Conference on Learning Representations (ICLR), 2021, 2024
- International Conference on Automated Planning and Scheduling (ICAPS), 2021 (Main+Demo Tracks)
- The IEEE International Conference on Robotics and Biomimetics (ROBIO), 2024

Workshops

- AAAI Fall Sym. on Reasoning and Learning in Real-world Systems for Long-term Autonomy, 2018
- 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 Spatial Language Understanding and Grounded Communication for Robotics (SpLU-RoboNLP), 2019 (with NAACL), 2021 (with ACL)
- Workshop on Cognitive Robotics (CogRob), 2016, 2018
- Workshop on Machine Learning in Planning and Control of Robot Motion (MLPC), with ICRA, 2018
- 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
- Workshop on Knowledge Representation and Reasoning in Robotics, 2013

Reviewer:

Conference Reviewer

- European Conference on Artificial Intelligence (ECAI), 2014
- IEEE Intelligent Vehicles Symposium (IV), 2021, 2022, 2023, 2024
- IEEE International Conference on Robotics and Automation (ICRA), 2012, 2014-2020, 2023-2025
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2011, 2016, 2018-2021
- IEEE International Conference on Robot & Human Interactive Communication (RO-MAN), 2019

- International Joint Conference on Artificial Intelligence (IJCAI), 2013
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2015, 2017
- International Conference on Developmental Learning and Epigenetic Robotics (ICDL-EPIROB), 2014
- International Conference on Robot Learning (CoRL), 2024
- The AAAI Conference on Artificial Intelligence (AAAI), 2016
- The Robotics: Science and Systems (RSS) conference, 2024, 2025
- The International Conference on Learning Representations (ICLR), 2025 (Blogpost track)

Workshop Reviewer:

- The RSS Pioneers Workshop 2022, 2024
- 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

Journal Reviewer:

- ACM Transactions on Intelligent Systems and Technology (TIST), 2018
- ACM Transactions on Human-Robot Interaction (THRI), 2022
- Elsevier Cognitive Systems Research, 2016, 2018
- Elsevier Engineering Applications of Artificial Intelligence, 2017
- Elsevier Robotics and Autonomous Systems (RAS), 2018, 2022 (SI: SPAR)
- Hindawi Mathematical Problems in Engineering, 2016
- IEEE Access, 2014
- IEEE Robotics and Automation Letters (RA-L), 2021, 2022
- IEEE Transactions on Automation Science and Engineering (T-ASE), 2017, 2018
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2020, 2022
- IEEE Transactions on Robotics (T-RO), 2013, 2023
- IEEE Transactions on Systems, Man and Cybernetics, Part A, 2014, 2015, 2016, 2017
- International Journal of Robotics Research (IJRR), 2024
- Journal of Artificial Intelligence Research (JAIR), 2020, 2021, 2024
- Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS), 2023
- Nature Machine Intelligence, 2022
- Springer Autonomous Robots (AURO), 2020
- Springer Machine Learning (ML), 2020
- Springer International Journal of Social Robotics (SORO), 2023
- Springer Journal of Intelligent and Robotic Systems (JINT), 2020
- Taylor & Francis: Advanced Robotics, 2015
- Taylor & Francis: Journal of Experimental and Theoretical Artificial Intelligence (JETAI), 2014
- The Proceedings of the National Academy of Sciences (PNAS), 2024

Proposal Reviewer:

- The 2024 Conference on Robot Learning
  * Workshop Proposal Reviewer, 2024
- National Science Foundation (NSF), USA, Virtual since 2020
  * Panelist: 2017 (1 panel), 2018 (2 panels), 2019 (2 panels), 2020 (1 panel), 2021 (2 panels), 2022 (1 panel), 2024 (1 panel in January, 1 panel in March), 2025 (1 panel in February)
  * Ad-hoc Reviewer: 2018, 2020
- Army Research Office (ARO), USA

    * Ad-hoc Reviewer, 2023
  - Swiss National Supercomputing Centre (CSCS), ETH Zurich, Switzerland
    * Scientific Reviewer, 2021
  - Swiss National Science Foundation (SNSF)
    * Reviewer, 2024
  - The American University of Sharjah (AUS), United Arab Emirates
    * External Reviewer, 2020
  - The Hong Kong University of Science and Technology (HKUST), China
    * Technical Reviewer, 2020
  - Office of Naval Research (ONR), USA
    * Ad-hoc Reviewer, 2017

  Book Reviewer:

  - Cambridge University Press, 2021

Editorial Board:

  Associate Editor

  - IEEE Robotics and Automation Letters, 2022-2024

  Special Issue Editor

  - The ELSP Journal on Robot Learning, 2025
    Special Issue on Learning Based Robot Path and Task Planning

Tutorials:

  - The AAAI-19 Tutorial, Honolulu, Hawaii, January 2019 (with Mohan Sridharan, and 75+ registrants)
    "Knowledge-based Sequential Decision-Making under Uncertainty"

Mentor in Doctoral Consortium (DC):

  - The International Conference on Automated Planning and Scheduling (ICAPS), June 1-6, 2024

University Service

SUNY Binghamton (School of Computing)

- CS Graduate Committee, 2024-2025
- Web/Publicity Committee, 2021-2024, 2024-2025 (Chair)
- Ad Hoc Committee on AI Programs, 2018-2022
- Faculty Search Committee, 2018-2022, 2024-2025
- Graduate Application Review Committee, 2019-2020, 2021-2022, 2023-2024 (Chair)
- Lab and Infrastructure Committee, 2018-2020, 2023-2025
- Jr. Initiating Personnel Committee, 2023-2025
- Coordinator of the AI Tracks (Graduate and Undergraduate), 2023-2025

SUNY Binghamton (Watson College of Engineering)

- Communications and Marketing, 2024-2025
- Watson GROWS (Graduate Research Outcomes Workshop Series), 2025

SUNY Binghamton (University)

- AI Advisory Committee, 2024-2025
- Image and Acoustics Signals Analysis (IASA) Stream Committee, Freshman Research Immersion (FRI), 2018-2024

SUNY Binghamton (Others)

- Faculty Advisor of StackHacks
  StackHacks is an on-campus student organization for fostering a community of innovative software engineers, with a special focus on supporting black, indigenous, and Latinx students.

Cleveland State University

- Assessment Peer Reviewer, CSU, Summer 2017
- Program Director, Chinese American Faculty and Staff Association (CAFSA) of CSU, 2017-2018
- NAE Grand Challenge Committee, Engineering College, CSU, 2016-2017
- Faculty Secretary, EECS Department, College of Engineering, CSU, 2017-2018
- Faculty Search Committee, EECS Department, College of Engineering, CSU, 2017-2018

Talks

Seminar and Invited Talks

- "From Service Robotics to Robotic Guide Dogs"
  Northport Veterans Affairs (VA) Medical Center
  Northport, NY, December 10, 2024
- "Robot Planning and Human-Robot Collaboration in Open Worlds"
  Griffiss Institute, TECH Talk
  Rome, NY, July 23, 2024
- "Autonomous Intelligent Robotics: an Introduction and Some Recent Advances"
  Kopernik Observatory and Science Center
  Vestal, NY, April 12, 2024
- "Seeing-Eye Quadruped Navigation with Force Responsive Locomotion Control"
  National Federation of the Blind of New York State, Syracuse Chapter
  Syracuse, NY (Online Talk), November 13, 2023
- "Symbolic State Space Optimization: Learning Abstractions for Mobile Manipulation"
  The 2023 CoRL Workshop on Learning Effective Abstractions for Planning (LEAP)
  Atlanta, GA, November 6, 2023
- "Leveraging Large Language Models for Robot Planning in Open Worlds"
  Vellore Institute of Technology Webinar
  Vellore, India (Online Talk), Sept 7, 2023
- "Leveraging Large Language Models for Robot Planning in Open Worlds"
  Ocean University of China (Host: Guangliang Li)
  Qingdao, China, July 4, 2023
- "Robot Planning in the Real World: Connecting Task and Motion, and Collaborating with People"
  Nankai University, Seminar Series of Advanced Robotics and AI (Host: Xuebo Zhang)
  Tianjin, China (Online Talk), December 20, 2022

- "Planning for Human-Robot Systems under Augmented Partial Observability"
  Cornell University, Robotics Seminar Series (Host: Hadas Kress-Gazit)
  Ithaca, NY (Online Talk), February 10, 2022
- "Robot Learning from Reinforcement with Human Guidance"
  China National Computer Congress: Multi-task, Multi-agent Reinforcement Learning Forum
  Shenzhen, China (Online Talk), December 17, 2021
- "Planning for Single-robot, Multi-robot, and Human-robot Systems"
  Vellore Institute of Technology (VIT), Autonomous Systems and Robotics Webinar Series
  Vellore, India (Online Talk), October 29, 2021
- "Knowledge-based Robot Learning and Planning under Uncertainty"
  New Mexico State University (NMSU), Computer Science Colloquium (Host: Tran Cao Son)
  Las Cruces, NM (Online Talk), September 22, 2021
- "Planning for Single-robot, Multi-robot, and Human-robot Systems"
  China Computer Federation (CCF), Group of Multiagent Systems
  Beijing, China (Online Talk), July 4, 2021
- "Knowledge-based, AR-mediated Robot Planning under Uncertainty"
  Tufts University, Colloquia of the Department of Computer Science (Host: Jivko Sinapov)
  Medford, MA (Online Talk), April 29, 2021
- "AI-Assisted AR-Mediated Decision Making"
  OPPO Research, DACA Talk
  Palo Alto, CA (Online Talk), January 11, 2021
- "Knowledge-based and Data-driven Robot Decision Making in Discrete and Continuous Spaces"
  Vellore Institute of Technology (VIT), VIT-BU Joint Webinars
  Vellore, India (Online Talk), December 3, 2020
- "AR Navigation based on Multi-person Dynamic Decision Making"
  OPPO Research, US Research Center
  Palo Alto, CA (Online Talk), December 1, 2020
- "Learning, Reasoning, and Planning in Robotics under Uncertainty"
  The IROS-2020 Workshop on Trends and Advances in Machine Learning and Automated Reasoning for Intelligent Robots and Systems
  Las Vegas, NV (Online Talk), October 29, 2020
- "Knowledge-based and Data-driven Robot Decision Making in Discrete and Continuous Spaces"
  The University of Leeds, Colloquium of Artificial Intelligence (Host: Matteo Leonetti)
  Leeds, England (Online Talk), October 2, 2020
- "Knowledge-based Robot Sequential Decision-Making"
  TechBeat.net Robotics Section
  Beijing, China (Online Talk), June, 2020
- "Robot Decision Making in Human-Inhabited, Collaborative Environments"
  IBM Thomas J. Watson Research Center (Host: E. Akin Sisbot)
  Yorktown Heights, NY, November, 2019
- "Sequential Decision-Making for Mobile Service Robots"
  The IJCAI 2019 Eldercare Robot Workshop
  Macau, China, August 16, 2019
- "Knowledge-based Robot Sequential Decision-Making under Uncertainty"
  University of Science and Technology of China (Host: Xiaoping Chen)
  Hefei, China, July, 2019

- "Knowledge-based Robot Sequential Decision-Making under Uncertainty"
  Harbin Institute of Technology (Shenzhen) (Host: Yunjiang Lou)
  Shenzhen, China, July, 2019
- "Knowledge-based Robot Sequential Decision-Making under Uncertainty"
  Tsinghua Shenzhen International Graduate School (Host: Chun Yuan)
  Shenzhen, China, July, 2019
- "Knowledge-based Robot Sequential Decision-Making under Uncertainty"
  Shanghai Jiao Tong University (SJTU), Institute of Medical Robotics (Host: Hesheng Wang)
  Shanghai, China, June, 2019
- "Knowledge-based Robot Sequential Decision-Making under Uncertainty"
  Massachusetts Institute of Technology (MIT), LIS Group Seminar (Host: Leslie Kaelbling)
  Cambridge, MA. March, 2019
- "Intelligent Mobile Service Robotics: Interaction and Navigation"
  Ford Motor Company, Smart Mobility Team (Host: Howie Yang)
  Dearborn, MI, March, 2019
- "Knowledge-based Robot Sequential Decision-Making under Uncertainty"
  Arizona State University, CSE Department Seminar (Host: Yu "Tony" Zhang)
  Tempe, AZ. October, 2018
- "Intelligent Mobile Service Robotics: Interaction and Navigation"
  JD Group – Silicon Valley Research Center
  Mountain View, CA (Online Talk). September, 2018
- "Intelligent Mobile Service Robotics: Interaction and Navigation"
  Staples Inc. Corporate Headquarters (Host: Sandeep Sikka)
  Framingham, MA. September, 2018
- "Interaction and Collaboration in Mobile Service Robotics"
  URU Inc. (Acquired by Adobe in 2018)
  New York City, NY (Online Talk). December, 2017
- "Integrated Reasoning and Planning Algorithms for Human-Robot Groups"
  The AAAI Fall Symposium on Human-Agent Groups: Studies, Algorithms and Challenges (Host: Vaibhav V. Unhelkar)
  Arlington, VA. November 10, 2017
- "Planning for Intelligent Mobile Robots in Everyday Environments"
  Northeast Ohio Computer Science and Information Systems Colloquium Series
  Kent State University, Kent, OH. March 2017
- "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics"
  Air Force Research Laboratory (AFRL) - Wright-Patterson Air Force Base
  Dayton, OH. October 2016
- "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics"
  Texas State University, Department Seminar
  San Marcos, TX. April 2016
- "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics"
  SUNY Albany, Department Seminar
  Albany, NY. April 2016
- "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics"
  Cleveland State University, Department Seminar
  Cleveland, OH. March 2016

- "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics"
  SUNY Binghamton, Department Seminar
  Binghamton, NY. March 2016
- "Integrating Commonsense Reasoning and Probabilistic Planning in Robotics"
  University of Wyoming, Department Seminar
  Laramie, Wyoming (Online Talk). February 2016
- "CORPP: Commonsense Reasoning and Probabilistic Planning, as Applied to Dialog with a Mobile Robot"
  The ONR Science of Autonomy Workshop, co-offered with Peter Stone
  Arlington, VA. August 2015
- "Combining Answer Set Programming and POMDPs for Reasoning in Robotics"
  Baidu Research, Research Seminar
  Sunnyvale, CA. June 2015
- "Combining Answer Set Programming and POMDPs for Reasoning in Robotics"
  University of Texas at Austin, LARG Group Seminar
  Austin, TX. November 2013
- "Automated Planning on Autonomous Robots"
  Southeast University, Artificial Intelligence Lab Seminar
  Nanjing, China. August 2012
- "Automated Planning on Autonomous Robots"
  Microsoft Research (Asia), Mobile and Sensing Systems Group Seminar
  Beijing, China. July 2012

Panel Discussions

- Panelist, "*The Freshman Research Immersion (FRI) Faculty Panel Event*," for students in Smart Energy and Signals Analysis Streams, SUNY Binghamton, November 11, 2019
- Panelist of Northeast Ohio (NEO) Chapter of ACM, "*AI, We Come In Peace: a Practical Discussion on the Impact of Artificial Intelligence in our Communities,*" Hosted by Nikola Danaylov, Youngstown State University, Youngstown OH. September 14, 2017
  `http://www.neoacmchapter.org/ai_panel2017/Home.html`

TV Interviews

- Global Business, CGTN Europe, July 18, 2024
  "China's Robotic Guide Dog"
  `https://youtu.be/-6DK3tKHs9I`
- Spectrum News, Nov 15, 2023
  "Students develop robotic guide dog to meet growing needs"
  `https://spectrumlocalnews.com/nys/binghamton/news/2023/11/15/robotic-seeing-eye-dogs`
- FOX 40 News (WICZ), aired on October 27, 2023
  "BU PhD Program Working on Robot Guide Dog"
  `https://www.wicz.com/story/49906640/bu-phd-program-working-on-robot-guide-dog`
- Spectrum News 1, aired on February 21, 2023
  "Binghamton University students developing new robotic technology"
  `https://spectrumlocalnews.com/nys/binghamton/education/2023/02/21/artificial-intelligence-robot-development-binghamton-unive`
- NewsChannel 34, aired on Friday, October 29, 2021
  "Robot dog hands out candy on Binghamton University campus"
  `https://www.binghamtonhomepage.com/news/robot-dog-hands-out-candy-on-binghamton-university-campus/`

- FOX 40 News (WICZ), aired on Friday, October 29 2021
  "BU's Computer Science Department Hands Out Candy Via Robotic Dog"
  https://www.wicz.com/story/45089418/bus-computer-science-department-hands-out-candy-via-robotic-dog/

Media Coverage

- BingUNews, June 26, 2024
  "Researchers find better way to detect when older adults fall at home"
  https://www.binghamton.edu/news/story/5025/researchers-find-better-way-to-detect-when-older-adults-fall-at-home
- Health Tech World, July 11, 2024
  "Researchers find better way to detect when older adults fall at home"
  https://www.htworld.co.uk/news/digital-health/researchers-find-better-way-to-detect-when-older-adults-fall-at-home/
- The New Republic, April 4, 2024
  "How Disabled People Get Exploited to Build the Technology of War"
  https://newrepublic.com/article/179391/wheelchair-warfare-pipeline-disability-technology
- Popular Science, March 11, 2024
  "Can this robot help solve a guide dog shortage?"
  https://www.popsci.com/technology/can-this-robot-help-solve-a-guide-dog-shortage/
- American National Standards Institute (ANSI), Feb 28, 2024
  "A New Wave of Robotics Supports Lifeguards, Food Banks, and the Visually Impaired"
  https://ansi.org/standards-news/standards-behind-the-headlines/2024/02/2-28-24-a-new-wave-of-robotics-supports-lifeguards-
- Drone Blocks (Blog Articles), February 21, 2024
  "How Quadrupeds are Pioneering Advances for the Visually Impaired"
  https://droneblocks.io/how-quadrupeds-are-pioneering-advances-for-the-visually-impaired/
- WIRED Middle East, February 16, 2024
  "Good bot! This robotic seeing-eye dog will guide the visually impaired"
  https://wired.me/uncategorized/robotic-seeing-eye-dog/
- Yahoo News, February 9, 2024
  "Guest Viewpoint: Engineers Week celebrates amazing tech at BU and around the world"
  https://www.yahoo.com/news/guest-viewpoint-engineers-week-celebrates-101152960.html
- Vision Ireland, Nov 24, 2023
  "AI and the future of Mobility technology for people with sight loss"
  https://vi.ie/ai-and-the-future-of-mobility-technology-for-people-with-sight-loss/
- Global Spec, Nov 22, 2023
  "Binghamton team develops robotic seeing-eye dog"
  https://insights.globalspec.com/article/21389/binghamton-team-develops-robotic-seeing-eye-dog
- TS2 Space, Nov 15, 2023
  "Innovative Robotic Guide Dogs: A Vision for the Future"
  https://ts2.space/en/innovative-robotic-guide-dogs-a-vision-for-the-future/
- Government Technology, November 14, 2023
  "Binghamton University Researchers Build Robotic Guide Dogs"
  https://www.govtech.com/education/higher-ed/binghamton-university-researchers-build-robotic-guide-dogs
- TechandTron Magazine, November 8, 2023
  "Assistive Robotics: A beacon of independence for visual impairment"
  https://techandtronmagazine.com/index.php/2023/11/08/assistive-robotics-a-beacon-of-independence-for-visual-impairment/
- Robotics and Automation Magazine, November 6, 2023
  "Researchers adapt quadruped into robotic guide dog"
  https://www.roboticsandautomationmagazine.co.uk/news/rd/researchers-adapt-quadruped-into-robotic-guide-dog.html

- TS2 Space, November 2, 2023
  "New Robot Technology Provides Enhanced Mobility for the Visually Impaired"
  https://ts2.space/en/new-robot-technology-provides-enhanced-mobility-for-the-visually-impaired/
- TS2 Space, November 1, 2023
  "Robotic Dogs: A Technological Alternative for the Visually Impaired"
  https://ts2.space/en/robotic-dogs-a-technological-alternative-for-the-visually-impaired/
- Futurism, November 2, 2023
  "Scientists Create Robotic Seeing Eye Dog: IT CAN EVEN RESPOND TO TUGGING AT THE LEASH."
  https://futurism.com/the-byte/scientists-create-robotic-seeing-eye-dog
- The Daily Beast, Nov. 01, 2023
  "Scientists Have Created a Robotic Seeing Eye Dog"
  https://www.thedailybeast.com/scientists-at-suny-binghamton-created-a-robotic-seeing-eye-dog
- Commonwealth Union, Nov. 01, 2023
  "Robotic Eye Dog To Help"
  https://www.commonwealthunion.com/robotic-eye-dog-to-help/
- Communications of the ACM, October 31, 2023
  "Computer Scientists Program Robotic Seeing-Eye Dog"
  https://cacmb4.acm.org/careers/277707-computer-scientists-program-robotic-seeing-eye-dog/
- News Atlas, October 31, 2023
  "Quadruped robots may one day give seeing-eye dogs a run for their money"
  https://newatlas.com/robotics/quadruped-robots-seeing-eye-dogs/
- Inceptive Mind, October 31, 2023
  "Engineers train robotic seeing-eye dog to assist the visually impaired"
  https://www.inceptivemind.com/robotic-seeing-eye-dog-guide-visually-impaired/
- Interesting Engineering, Oct 31, 2023
  "Engineers create a robotic eye-seeing dog to aid the visually impaired"
  https://interestingengineering.com/innovation/engineers-create-a-robotic-eye-seeing-dog-to-aid-the-visually-impaired
- IoT World Today, October 31, 2023
  "Seeing Eye Robot Dog Debuts at Binghamton University"
  https://www.iotworldtoday.com/robotics/seeing-eye-robot-dog-debuts-at-binghamton-university
- Tech Times, Oct 31, 2023
  "Robot Guide Dog Responding to Tugs on Its Leash Could Help Blind and Visually Impaired People"
  https://www.techtimes.com/articles/298146/20231031/robot-guide-dog-responding-tugs-leash-help-blind-visually-impaired
- Bollyinside News, Oct 28, 2023
  "Binghamton Engineers Develop Robotic Seeing-Eye Dog to Enhance Accessibility for Visually Impaired"
  https://www.bollyinside.com/news/technology/binghamton-engineers-develop-robotic-seeing-eye-dog-to-enhance-accessibility-fo
- WBNG, aired on October 26, 2023
  "Binghamton University brings new research to robot seeing-eye dog"
  https://www.wbng.com/2023/10/27/binghamton-univeristy-brings-new-research-robot-seeing-eye-dog/

Internal Talks and Poster Presentations

- "Robot Operating System (ROS): The Secret Language of Robots"
  Campus Open House for Admitted Students and Families, SUNY Binghamton
  April 14, 2024
- "Robot Operating System (ROS): Concepts and Applications"
  Campus Open House for Admitted Students and Families, SUNY Binghamton
  October 8, 2023

- "Robot Decision Making in Human-Inhabited Environments"
  Cognitive Lunch Seminar, Department of Psychology, SUNY Binghamton
  January 29, 2020
- "From Multi-Robot Systems to Human-Robot Interaction and Collaboration"
  Research Center for Imaging, Acoustics, and Perception Science (CIAPS) seminar, SUNY Binghamton
  December 5, 2019
- "Negotiation-based Human-Robot Collaboration via Augmented Reality"
  Faculty-Student Mixer, Freshman Research Immersion (FRI), SUNY Binghamton
  October 31, 2019 (Poster Presentation)
- "Robot Decision Making in Human-Inhabited, Collaborative Environments"
  Center for Collective Dynamics of Complex Systems (CoCo) Seminar Series, SUNY Binghamton
  February 13, 2019 (Link to the talk)
- "Knowledge-based Robot Sequential Decision-Making under Uncertainty"
  Computer Science Department Seminar, SUNY Binghamton
  September 7, 2018
- "Artificial Intelligence (AI) Planning for Real Robot Systems"
  Ignite Talk at College of Engineering Faculty Meeting, Cleveland State University
  March 9, 2017
- "Planning for Intelligent Mobile Robots in Everyday Environments"
  Human Machine System Seminar, Cleveland State University
  October 12, 2016
- "CORPP: Commonsense Reasoning and Probabilistic Planning, as Applied to Dialog with a Mobile Robot"
  Robotics Portfolio Seminar Series, The University of Texas at Austin
  November 4, 2015
- "CLIPP: Combining Logical Inference and Probabilistic Planning"
  UREASON Seminar, Texas Tech University
  October 23, 2012
- "Combining Probabilistic Planning and Logic Programming on Mobile Robots"
  UREASON Seminar, Texas Tech University
  April 20, 2012
- "Combining Probabilistic Planning and Logic Programming on Mobile Robots"
  Knowledge Representation (KR) Lab Seminar, Texas Tech University
  February 15, 2012

Personal

Male, Married, Two children (2015 and 2017)

References

Available on request