SHIWALI MOHAN

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WEBSITE: www.shiwali.me, Google Scholar

RESEARCH INTERESTS

- Collaborative intelligent systems
- Sequential Decision Making in Complex Agents
- Human cognition: decision making, behavior, and learning
- AI for social good and public welfare

EDUCATION

2009-2015 Doctor of Philosophy, Computer Science & Engineering, University of Michigan, Ann Arbor
Dissertation: *From Verbs to Tasks: An Integrated Account of Learning Task Knowledge from Situated Interactive Instruction*
Committee: John Laird (Chair), Edmund Durfee, Edwin Olson, Rick Lewis, Andrea Thomaz (external member)

2008-2009 Master of Science & Engineering, Computer Science & Engineering
University of Michigan, Ann Arbor

2003-2007 Bachelor of Engineering, Instrumentation & Control Engineering
Netaji Subhas Institute of Technology, Delhi University, New Delhi

EMPLOYMENT

2022-present Principal Scientist, Palo Alto Research Center (PARC)

2019-2022 Senior Member of Research Staff, Palo Alto Research Center (PARC)

2015-2019 Member of Research Staff, Palo Alto Research Center (PARC)

2014-2015 Postdoctoral Researcher, Palo Alto Research Center (PARC)

2007-2008 Software Engineer, Yahoo! Research & Development, India

FUNDING

2022 National Science Foundation - AI Institute on Advancing AI-Guided Decision Making in Real-World Settings, primed by University of Michigan (proposed with PARC as an Industry Partner)

2021-2022 Defense Advance Research Projects Agency (DARPA) - Grounded Artificial Intelligence Language Acquisition - Phase III (GAILA) $700K
Principal Investigator, *Advanced Cognitive Learning for Embodied Language* (AILEEN)

2021-2022 Xerox Corporation - IoT/AI Tower $375K
Principal Investigator, *Embodied Reasoning for Collaborative Learning* (EMBRACE)

2020-2023 Defense Advanced Research Projects Agency (DARPA) - Science of Artificial Intelligence and Learning for Open-world Novelty (SAIL-ON) $4M
Principal Investigator, *Hypothesis-Guided Model Revision over Multiple-Aligned Representations* (HYDRA).

2019-2021 Defense Advanced Research Projects Agency (DARPA) - Grounded Artificial Intelligence Language Acquisition (GAILA) $1M
Principal Investigator, *Advanced Cognitive Learning for Embodied Language* (AILEEN)

2018-2019 Air Force Office of Scientific Research (AFOSR) $300K
Co-Principal Investigator, *Levels of Learning in Natural and Artificial Agents*

2015-2018 Advanced Research Projects Agency-Energy (ARPA-E) $2.18M
Key Personnel, *Collaborative Optimization and Planning for Transportation Energy Reduction* (COPTER)

2016-2017 Xerox Innovation Group (Xerox XIG) $750K
Principal Investigator, *A Cognitive Approach to Long-Living Process Systems*

AWARDS & HONORS

2022 AI Rising Star, AI Laboratory, University of Michigan

2018 Blue Sky Award, 32^{nd} AAAI Conference on Artificial Intelligence

2014 HRI Pioneer

2013 AAAI Travel Grant

2012 AAAI Doctoral Consortium Cohort

2011-2013 Rackham Travel Scholarship

2008 Best Paper Award, 9^{th} International Conference on Computational Linguistics and Intelligent Text Processing

2003-2007 Scholarship for Academic Excellence, Delhi University

PUBLICATIONS

Journal Articles

J1 **Shiwali Mohan**, Wiktor Piotrowski, Roni Stern, Sachin Grover, Sookyung Kim, Jacob Le, Yoni Sher, and Johan de Kleer. A Framework for Agents Operating in Open, Mixed Discrete-Continuous Worlds. (*under review*) *Aritificial Intelligence Journal*. 2023.

J2 **Shiwali Mohan**, William Hancock, and Matt Klenk. Analogical Concept Memory for Architectures Implementing the Common Model of Cognition. (*under review*) *Cognitive Systems Research*. 2023.

J3 **Shiwali Mohan**. Exploring the Role of Common Model of Cognition in Designing Adaptive Coaching Interactions for Health Behavior Change. *ACM Transactions on Interactive Intelligent Systems*. 2021.

J4 John Laird and **Shiwali Mohan**. A Case Study of Knowledge Integration Across Multiple Memories in Soar. Common Model of Cognition Bulletin, 1(1), 32-38. (Reprint in 2020)

J5 **Shiwali Mohan**, Anusha Venkatakrishnan, Andrea Hartzler. Designing an AI Health Coach and Studying its Utility in Promoting Regular Aerobic Exercise. *ACM Transactions on Interactive Intelligent Systems*. 2020.

J6 **Shiwali Mohan**, Hesham Rakha, Matthew Klenk. Acceptable Planning: Influencing Individual Behavior to Reduce Transportation Energy Expenditure of a City. *Journal of Artificial Intelligence Research*. 2019.

J7 Aaron Springer, Anusha Venkatakrishnan, **Shiwali Mohan**, Les Nelson, Michael Silva, Peter Pirolli. Leveraging Self-Affirmation to Increase mHealth Behavior Change. *Journal of Medical Information Research*. 2018.

J8 Peter Pirolli, **Shiwali Mohan**, Anusha Venkatakrishnan, Len Nelson, Michael Silva, Aaron Springer. *Journal of Medical Information Research*. 2017.

J9 John E Laird, Kevin Gluck, John Anderson, Kenneth D Forbus, Odest Chadwicke Jenkins, Christian Lebiere, Dario Salvucci, Matthias Scheutz, Andrea Thomaz, Greg Trafton, Robert E Wray, **Shiwali Mohan**, James R Kirk. Interactive Task Learning. *IEEE Intelligent Systems*, Volume 32, Issue 4, IEEE 2017.

J10 **Shiwali Mohan**, Aaron Mininger, and John Laird. Towards an Indexical Model of Situated Comprehension for Real-World Cognitive Agents. *Advances in Cognitive Systems 3*, ACS 2014.

J11 John Laird and **Shiwali Mohan**. A Case Study of Knowledge Integration Across Multiple Memories in Soar. *Biologically Inspired Cognitive Architectures* (invited), BICA 2014.

J12 **Shiwali Mohan**, Aaron Mininger, James Kirk, and John Laird. Acquiring Grounded Representations of Words with Situated Interactive Instruction. *Advances in Cognitive Systems 2*, ACS 2012.

Book Chapters

B1 John Laird, **Shiwali Mohan**, James Kirk, Aaron Mininger. The Learning Problem in Interactive Task Learning. *Ernst Strunngman Forum - Interactive Task Learning Agents, Robots, and Humans and Acquiring New Tasks through Natural Interaction. Eds. Kevin Gluck and John Laird*. 2019.

B2 Dario Salvucci, John Laird, Franklin Chang, Kenneth Forbus, Parisa Kordjamshidi, Tom Mitchell, **Shiwali Mohan**, Michael Spranger, Suzanne Stevenson, Andrea Stocco, Gregory Trafton. Learning in Interactive Task Learning. *Ernst Strunngman Forum - Interactive Task Learning Agents, Robots, and Humans and Acquiring New Tasks through Natural Interaction. Eds. Kevin Gluck and John Laird*. 2019.

Conference

C1 Wiktor Piotrowski, Yoni Sher, Sachin Grover, Roni Stern and **Shiwali Mohan**. Heuristic Search For Physics-Based Problems: Angry Birds in PDDL+. *International Conference of Automated Planning and Scheduling* (*to appear*). ICAPS 2023.

C2 Wiktor Piotrowski, Roni Stern, Yoni Sher, Jacob Le, Matthew Klenk, Johan de Kleer, **Shiwali Mohan**, Learning to Operate in Open Worlds by Adapting Planning Models. *International Foundation for Autonomous Agents and Multiagent Systems* (*extended abstract, to appear*). AAMAS 2023.

C3 Wiktor Piotrowski, Roni Stern, Matthew Klenk, Alexandre Perez, **Shiwali Mohan**, Johan deKleer, and Jacob Le. Playing Angry Birds with a Domain-Independent PDDL+ Planner. *In International Conference on Planning and Scheduling*. ICAPS demo track 2021.

C4 Preeti Ramaraj, Charlie Ortiz, **Shiwali Mohan**. Unpacking Human Teachers' Intentions to Design Robust Interactive Task Learning Systems. *International Symposium on Robot and Human Interactive Communication*. IEEE RO-MAN 2021.

C5 **Shiwali Mohan**, Matthew Klenk, Matthew Shreve, Aaron Ang, Kent Evans, John Maxwell. Characterizing a Concept Memory for Architectures Implementing the Common Model of Cognition. *In Proceedings of the* 8^{th} *Annual Conference on Advances in Cognitive Systems*. ACS 2020.

C6 Matthew Klenk, Wiktor Piotrowsky, Roni Stern, **Shiwali Mohan**, and Johan de Kleer. Model-Based Novelty Adaptation for Open-World AI. In Proceedings of the 8^{th} Annual Conference on Advances in Cognitive Systems. 2020.

C7 **Shiwali Mohan**, Frances Yan, Victoria Bellotti, Hesham Rakha, Matthew Klenk, On Influencing Individual Behavior for Reducing Transportation Energy Expenditure in a Large Population. *In Proceedings of the* 2^{nd} *AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society*. AIES 2019.

C8 John Laird and **Shiwali Mohan**. Learning Fast and Slow: Levels of Learning in General Autonomous Intelligent Agents. *In Proceedings of the* 32^{nd} *AAAI Conference on Artificial Intelligence*. AAAI 2018. Blue Sky Award.

C9 **Shiwali Mohan**, Anusha Venkatakrishnan, Michael Silva, and Peter Pirolli. On Designing a Social Coach to Promote Regular Aerobic Exercise. *In the Proceedings of the 29th Annual Conference on Innovative Applications of Artificial Intelligence/AAAI*, IAAI 2017.

C10 Justin Li, Steven Jones, **Shiwali Mohan**, and Nate Derbinksy. Architectural Mechanisms for Mitigating Uncertainty during Long-Term Declarative Knowledge Access. *In the Proceedings of the 4th Annual Conference on Advances in Cognitive Systems*, ACS 2016.

C11 Andrea L Hartzler*, Anusha Venkatakrishnan*, **Shiwali Mohan**, Michael Silva, Paula Lozano, James D Ralston, Evette Ludman, Dori Rosenberg, Katherine M Newton, Lester Nelson, Peter Pirolli. Acceptability of a Team-Based Mobile Health (mHealth) Application for Lifestlye Self-Management in Individuals with Chronic Illnesses. *In* 38^{th} *Annual International Conference of the Engineering in Medicine and Biology Society* (*EMBC*), IEEE. 2016.

C12 **Shiwali Mohan** and John Laird. Learning Goal-Oriented Hierarchical Tasks from Situated Interactive Instruction. *In the Proceedings of the* 28^{th} *AAAI Conference*, AAAI 2014.

C13 **Shwali Mohan!**, Aaron Mininger, and John Laird. Towards an Indexical Model of Situated Language Comprehension for Real-World Cognitive Agents. *In Proceedings of the Second Annual Conference on Advances in Cognitive Systems*. 2013.

C14 **Shiwali Mohan**, James Kirk, and John Laird. A Computational Model of Situated Task Learning with Interactive Instruction. *In Proceedings of the* 17^{th} *International Conference on Computational Modeling*, ICCM 2013.

C15 **Shiwali Mohan**, James Kirk, Aaron Mininger, and John Laird. Acquiring Grounded Representations of Wordswith Situated Interactive Instruction. *In Proceedings of the First Annual Conference on Advances in Cognitive Systems*. 2012.

C16 Mandar Joshi, Rakesh Khobragade, Saurabh Sarda, Umesh Deshpande, and **Shiwali Mohan**. Object-Oriented Representation and Hierarchical Reinforcement Learning in Infinite Mario. *In Proceedings of the* 24^{th} *IEEE International Conference on Tools with Artificial Intelligence*, ICTAI 2012.

C17 **Shiwali Mohan** and John Laird. Learning Actions and Action Verbs from Human-Agent Interaction. *In Proceedings of the 26th AAAI Conference on Artificial Intelligence* (*extended abstract*), AAAI 2012.

C18 **Shiwali Mohan** and John Laird. Exploring Mixed-Initiative Interaction for Learning with Situated Instruction in Cognitive Agents. *In Proceedings of the 26th AAAI Conference on Artificial Intelligence* (*extended abstract*), AAAI 2012.

C19 **Shiwali Mohan** and John Laird. An Object-Oriented Approach to Reinforcement Learning in an Action Game. *In Proceedings of the* 7^{th} *Artificial Intelligence for Interactive Digital Entertainment Conference*, AIIDE 2011.

C20 **Shiwali Mohan** and John Laird. Relational Reinforcement Learning in Infinite Mario. *In Proceedings of the 24th AAAI Conference on Artificial Intelligence* (*extended abstract*), AAAI 2010.

C21 Niladri Chatterjee and **Shiwali Mohan**. Discovering Word Senses from Text using Random Indexing. *In Proceedings of the* 9^{th} *International Conference on Computational linguistics and Intelligent Text Processing*, CICLing 2008. Best Paper Award.

C22 Niladri Chatterjee and **Shiwali Mohan**. Extraction-based Single-Document Summarization Using Random Indexing. *In Proceeding of the* 19^{th} *IEEE International Conference on Tools with Artificial Intelligence*, ICTAI 2007.

Workshops

W1 Poorvesh Dongre, **Shiwali Mohan**, Saman Mostafavi, and Kalai Ramea. Modeling and Simulating Thermostat Behaviors of Office Occupants: Are Values More Important than Comfort? *In the BALANCES Workshop at ACM BuildSys*. 2022.

W2 Roni Stern, Wiktor Piotrowski, Matt Klenk, Johan deKleer, Alexandre Perez, Jacob Le and **Shiwali Mohan**. Model-based Adaptation to Novelty in Open-World AI. *In the Workshops at the International Conferences on Planning and Scheduling*. 2022.

W3 Ion Matei, Johan deKleer, and **Shiwali Mohan**. Interpretable Machine Learning Models: A Physics-Based View. *In Papers from the AAAI Fall Symposium Series on Physics-Guided AI*. 2020.

W4 Preeti Ramaraj, Matthew Klenk, **Shiwali Mohan**. Understanding Intentions in Human Teaching to Design Interactive Task Learning Robots. *In Workshops at Robotic Science and Systems*. 2020.

W5 **Shiwali Mohan**, Matthew Klenk, Victoria Belloti. Exploring How to Personalize Travel Mode Recommendations For Urban Transportation. *In Joint Proceedings of the ACM IUI 2019 Workshops - Workshop on Theory-Informed User Modeling for Tailoring and Personalizing Interfaces* (*HUMANIZE*). 2019.

W6 **Shiwali Mohan**, Kalai Ramea, Bob Price, Matthew Shreve, Hoda Eldardiry. Building JARVIS: A Learner-Aware Conversational Trainer. *In Joint Proceedings of the ACM IUI 2019 Workshops - Workshop on User-Aware Conversational Agents* (*user2agent*). 2019.

W7 Filip Dvorak, **Shiwali Mohan**, Victoria Bellotti, Matthew Klenk. Collaborative Optimization and Planning for Transportation Energy Reduction. *ICAPS Proceedings of the 6th Workshop on Distributed and Multi-Agent Planning*. 2018.

W8 **Shiwali Mohan**, Anusha Venkatakrishnan, Daniel Bobrow, Peter Pirolli. Health Behavior Change: A Motivating Domain for Human-Aware AI Research. *In Proceeding of the AAAI 2017 Workshops*. AAAI 2017.

W9 Matthew Klenk, **Shiwali Mohan**, Johan de Kleer, Daniel Bobrow, Tom Hinrichs, Ken Forbus. Collaborative Autonomy Through Analogical Comic Graphs. *In Proceedings of AAAI 2017 Workshops*. AAAI 2017.

W10 Peter Pirolli, **Shiwali Mohan**, Rong Yang, Anusha Venkatakrishnan, Michael Silva, Michael Youngblood, Ashwin Ram and Les Nelson. User Modeling and Planning for Improving Self-efficacy and Goal Adherence in mHealth. *Frontiers Public Health. Conference Abstract: 2nd Behaviour Change Conference: Digital Health and Wellbeing.*, 2016.

W11 **Shiwali Mohan**, James Kirk, Aaron Mininger, John Laird. Agent Requirements for Effective and Efficient Task-Oriented Dialog. *In Papers from the AAAI Fall Symposium Series on Artificial Intelligence for Human-Robot Interaction*, 2015.

W12 **Shiwali Mohan**, and John E. Laird. Learning New Tasks for Situated Interactive Instruction. *In the 2014 HRI Pioneers Workshop at Human-Robot Interaction*, 2014.

W13 John E. Laird and **Shiwali Mohan**. A Case Study of Knowledge Integration Across Multiple Memories in Soar. *In Papers from the AAAI Fall Symposium Series on Integrated Cognition*, 2013.

W14 **Shiwali Mohan***, Aaron Mininger*, James Kirk*, and John Laird. Learning Grounded Language Through Situated Interactive Instruction. *In Papers from the AAAI Fall Symposium Series on Robots Learning Interactively from Human Teachers*, 2012.

W15 Mandar Joshi, Rakesh Khobragade, Saurabh Sarda, Umesh Deshpande, and **Shiwali Mohan**. Hierarchical Action selection for Reinforcement Learning in Infinite Mario. *In Proceedings of the 6th Starting Artificial Intelligence Research Symposium at European Conference on Artificial Intelligence*, STAIRS 2012.

W16 John Laird, Keegan Kinkade, **Shiwali Mohan**, and Joseph Xu. Cognitive Robotics Using the Soar Cognitive Architecture. *In Proceedings of the 8th International Cognitive Robotics Workshop*, 2012.

W17 **Shiwali Mohan** and John Laird. Situated Comprehension of Imperative Sentences in Embodied, Cognitive Agents. *In Papers from the AAAI Workshop on Grounding Language for Physical Systems*, 2012.

W18 **Shiwali Mohan** and John Laird. Towards Situated, Interactive, Instructable Agents in a Cognitive Architecture. *In Papers from the AAAI Fall Symposium Series on Advances in Cognitive Systems*, 2011.

Inclusive Communities for Science & Technology

May 2021 Invited Speaker, RAISO: Responsible Artificial Intelligence Student Organization, Northwestern University

April 2021 EECS Ladies+ roundtable, University of Michigan, Ann Arbor

March 2021 Panelist on the International Women's Day Panel at The Women's Alliance, Xerox Corporation.

February 2021 Mentor, Women's mentoring event (*Breakfast with Champions*) at AAAI 2021

February 2020 Mentor, Women's mentoring event (*Breakfast with Champions*) at AAAI 2020

Invited Talks, Workshops, & Panels

November 2022 *Collaborative Human-AI Systems*. University of Michigan AI Symposium, AI Rising Start Spotlight Presenter.

June 2022 *Exploring the Role of the Common Model of Cognition in Designing Adaptive Coaching Interactions for Health Behavior Change*. ACM Conference on Intelligent User Interfaces (ACM IUI)

May 2022 *Cognitive Science for Interactive Robots*. Cognition/Perception Seminar, Department of Psychology, University of Washington.

April 2022 *Design and Analysis of Collaborative Human-AI Systems* Technology and Society in the Next Generation: Growth, Security, and Well-Being. City University of New York and UC Berkeley.

March 2022 *How Can Insight About Human Cognition Support Collaborative Robot Design?*, Human-Interactive Robot Learning Workshop, ACM Human-Robot Interaction.

February 2022	*Collaborative Human-AI Systems: How Can We Design Next-Gen Education Technology that is Human-Aware*, Microsoft.
October 2021	*Robots that Talk and Learn: A Case for Modeling Humans to Design Effective Collaborative Systems*, University of Washington Robotics Colloquium.
September 2021	*Intelligent Coaching for Healthy Behaviors: Bridging Cognitive Modeling, HCI, and AI*, Nike Corporation.
May 2021	*A Cognitive Approach to Interactive Robot Design.* Talking Robotics.
April 2021	*Designing an AI Health Coach and Studying its Utility in Promoting Regular Aerobic Exercise.* ACM Intelligent User Interfaces.
February 2021	*Humans of AI: Modeling Humans for Designing Effective Collaborative AI Systems*. Computer Science Colloquium, Northwestern University.
February 2021	*AILEEN - A Neuro-Cognitive Approach to Interactive Task Learning Systems*. AAAI 2021 Workshop on Hybrid Artificial Intelligence
October 2020	*Incorporating Behavioral Economics in AI Systems for Effective Human-AI Collaborative Behavior*, Aggregate Intellect.
September 2020	*Humans of AI*, Soar Technology Incorporated.
July 2020	*Humans of AI*, AI Seminar at USC Information Sciences Institute
June 2020	*Common Model of Cognition and Health Behavior Change*, Virtual International Symposium on Cognitive Architectures (VISCA 2020)
January 2020	*Augmented Reality for Task Training*, Electronic Imaging 2020
May 2019	*Human-Aware AI Systems*, Machine Learning and User Experience + Ladies that UX meetup group
November 2017	NSF Workshop on Interactive Cognitive Assistants
May 2017	Ernst Strunngmann Forum on Interactive Task Learning
September 2015	*On Designing a Programmable Cognitive Assistant*, IBM Cognitive Systems Institute
December 2013	*Learning Hierarchical Tasks with Situated Interactive Instruction*, Institute of Creative Technologies, University of Southern California, Information Science Institute, University of Southern California

Students Advised

Ph.D. Committee

1. Preeti Ramaraj. University of Michigan, Ann Arbor. (expected 2023)
2. William Hancock. Northwestern University. (expected 2024)
3. Poorvesh Dongre, Virginia Tech. (expected 2024)

Graduate Internships

1. Poorvesh Dongre, graduate student, Virginia Tech (2022) [publications: W1]
2. William Hancock, graduate student, Northwestern University (2021-2022)
3. Vijay Marupudi, graduate student, Georgia Institute of Technology (2021)
4. Preeti Ramaraj, graduate student, University of Michigan (2020, 2021)[publications: C3, W4]
5. Aarathi Venkatesan, currently a research manager at Vida Health Inc. (2019)
6. Naman Shah, graduate student, Arizona State University. (2018).

Undergraduate Theses

1. Anant Mittal, Indraprastha University New Delhi, India. Currently a graduate student at University of Washington.
2. Mandar Joshi, National Institute of Technology, Nagpur, India. Currently a graduate student at University of Washington. [publications: C13, A3]

Teaching Experience

2020	Guest Lecturer, *Human Modeling for Artificial Intelligence*, Vanderbilt University
2020	Guest Lecturer, *Interactive Task Learning a Challenge Problem for Knowledge Representation and Reasoning*, Occidental College.

2014 Guest Lecturer, *EECS 498 - Intelligent Interactive Systems*, University of Michigan, Ann Arbor

2012 Graduate Student Instructor, *EECS 492 - Introduction to Artificial Intelligence*, University of Michigan, Ann Arbor.

Service

AI Community 2020-2021 Co-Chair AAAI Doctoral Consortium (AAAI-DC) 2021
Raised funds from National Science Foundation (NSF). Lead transition to an online format. Supported AAAI DC outreach to Latin and South American countries through dedicated, strategic efforts. The 2021 cohort had participants from more than 6 countries and was gender balanced.

2020 Co-Chair Advances in Cognitive Systems (ACS)
Led transition to an online format. Doubled conference attendance through dedicated outreach. Introduced student mentoring sessions with early career researchers and academics. Introduced academia panel to motivate community effort and resources on teaching cognitive systems topics. Introduced best student paper award for the first time.

2020 Co-Chair AAAI Doctoral Consortium (AAAI-DC) 2020-2021
Achieved gender parity in the 2020 cohort for the first time in over two decades. Raised funds from National Science Foundation (NSF) and Artificial Intelligence Journal (AIJ).

2021 Review Editor, Frontiers - Connected Health

2021-present Program Committee, ACM Intelligent User Interfaces (ACM IUI)

2020-present Senior Program Committee, International Joint Conference on Artificial Intelligence (IJCAI)

2016-present Program Committee, Association for the Advancement of Artificial Intelligence (AAAI)

2016 Program Committee, International Joint Conference on Artificial Intelligence (IJCAI)

2018-present Program Committee, ACM Annual Conference on Intelligent User Interfaces (ACM IUI) 2018-present

2018 Program Committee, International Conference on Robotics and Automation (ICRA)

2018 Program Committee, ACM Annual Conference on Human-Robot Interaction (HRI)

2018-present Program Committee, Association for the Advancement of Artificial Intelligence, Doctoral Consortium (AAAI DC)

2018-present Program Committee, Annual Conference on Advances in Cognitive Systems (ACS)

2018-present Reviewer, Advances in Cognitive Systems

2019 Reviewer, Autonomous Robots

2018 Reviewer, ACM Transactions of Intelligent Interactive Systems

2015 Organizing Committee, Students of Cognitive Systems, Annual Conference on Advances in Cognitive Systems (ACS).

PARC 2020 Founding Member: Diversity, Equity, and Inclusion Initiative

2017-present Peer mentor

2016-present Pink and red reviewer for proposal activity to DARPA - DSO, I2O, TTO; ONR; NASA; NIH

2020 Founder: Integrated Intelligent Systems Reading Group: a PARC cross-lab discussion group

2016-2017 Committee member for PARC's Employee-Led Intellectual Property Investment portfolio $3*M*/year

U. Michigan 2012, 2013 Founding member and co-chair, Special Interest Group - Faculty

2011 Vice-president, CSE Graduate Organization

2010,2011 Social Chair, Indian Students Association

2010 DCO Representative, CSE Graduate Organization

Patents

2021, USA Shiwali Mohan, Matt Klenk, Matthew Shreve, Aaron Ang, Kent Evans, John Maxwell. *Controlling Mechanical systems Based on Natural Language Input*. Application number 17518417.

2021, USA Shiwali Mohan, Matt Klenk, Matthew Shreve, Aaron Ang, Kent Evans, John Maxwell. *System For Interacting With Machines Using Natural Language Input*. Application number 17518429.

2021, USA Shiwali Mohan, Matt Klenk, Matthew Shreve, Aaron Ang, Kent Evans, John Maxwell. *Interacting With Machines Using Natural Language Input and A State Graph*. Application number 17518172.

2021, USA Shiwali Mohan, Matt Klenk, Matthew Shreve, Aaron Ang, Kent Evans, John Maxwell. *Interacting With Machines Using Natural Language Input and An Enhanced State Graph*. Application. 17518408.

2018, USA Robert Price, Shiwali Mohan, *Rule-based Augmentation Of Perceptions To Augment And Filter Perceptions Of Observed Systems*. Application number 16/237,241, Publication date: 2020/7/2

2018, USA Matthew Klenk, Shiwali Mohan, Victoria Bellotti, *User Behavior in Transportation Influence*. Application number 16/181152. Publication date: 2020/5/7. Granted: 2021/06/07.

2018, USA Matthew Klenk, Victoria M Bellotti, Filip Dvorak, Shiwali Mohan. *Generating collaboratively optimal transport plans*. Application number 16/024,208. Publication date: 2020/1/2. Granted: 2021/5/1.

2017, European Ashwin Ram, Gregory Michael Youngblood, Lester D Nelson, Anusha Venkatakrishnan, Peter L Pirolli, Michael K Silva, Shiwali Mohan. *System and Method to Create, Monitor, and Adapt Individualized Multidimensional Health Programs*. Application number: 17165632.5 Publication date: 2017/04/07.

2016, USA Ashwin Ram, Gregory Michael Youngblood, Lester D Nelson, Anusha Venkatakrishnan, Peter L Pirolli, Michael K Silva, Shiwali Mohan. *System and Method to Create, Monitor, and Adapt Individualized Multidimensional Health Programs*. Application number: 15/130,770. Publication date: 2016/4/15.

Media

2021 *Are Digital Humans the Next Step in Human-Computer Interaction?*. Interview. IEEE Spectrum.

2017 *Could a Bot Coach You to a New PR? Artificial intelligence is making its way into fitness apps*. Interview. Outside magazine

February 16, 2023