CONTACT INFORMATION

Assistant Professor
Toyota Technological Institute at Chicago
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EDUCATION

Massachusetts Institute of Technology Ph.D. February 2008
Woods Hole Oceanographic Institution

Mechanical and Ocean Engineering
MIT/WHOI Joint Program in Applied Ocean Science and Engineering

Thesis: **Sparse Bayesian Information Filters for Localization and Mapping**
John J. Leonard (chair), Hanumant Singh, Seth Teller

University of Illinois at Urbana-Champaign B.S. May 2000

General Engineering, Robotics and Controls Specialization

APPOINTMENTS

Toyota Technological Institute at Chicago November 2014–present
Assistant Professor

Massachusetts Institute of Technology February 2011–November 2014
Computer Science and Artificial Intelligence Laboratory
Research Scientist

Massachusetts Institute of Technology February 2008–February 2011
Computer Science and Artificial Intelligence Laboratory
Postdoctoral Associate

FUNDING

NRI: Collaborative Research: Learning Adaptive Representations for Robust Mobile Robot Navigation from Multi-Modal Interactions
National Science Foundation November 2016–October 2019

Generating Natural Language Scene Descriptions for Shared Situational Awareness
Army Research Laboratory January 2017–December 2018
Robotics Collaborative Technology Alliance (RCTA)

Learning to Detect and Convey Hard and Soft Attributes from Visual and Lingual Cues
Office of Naval Research November 2016–October 2017
Subcontract to MIT Lincoln Laboratory

Learning Task Ordering from Natural Language Directions
Army Research Laboratory January 2016–April 2017
Robotics Collaborative Technology Alliance (RCTA)

Learning to Handle Objects from Human Demonstrations
Army Research Laboratory January 2016–April 2017

Robotics Collaborative Technology Alliance (RCTA)

In Situ Monologue Comprehension for Faster Mission Tempo
Army Research Laboratory January 2016–April 2017
Robotics Collaborative Technology Alliance (RCTA)

Human Facilitated Learning of Mission Objectives and Mission-Relevant Semantic Scene Information
Office of Naval Research January 2015–April 2016
Subcontract to MIT Lincoln Laboratory

Natural Language-Based Shared Autonomy for Mobile Manipulation
Army Research Office March 2017
Defense University Research Instrumentation Program (DURIP)

Advising & Mentoring Experience

Co-Advisor, M.S. Student Andrea Daniele January 2017
University of Rome - La Sapienza, Department of Physical Sciences
Learning to Generate Natural Language Instructions for Navigation

Advisor, M.S. Student Hongyuan Mei August 2016
University of Chicago, Department of Physical Sciences
Natural Language Processing with Attention-based Neural Networks

Advisor, M.S. Student Bharat Chandar July 2016
University of Chicago, Department of Statistics
Grasping With Visual and Semantic Features

Co-supervisor, MSRP Student Darrell Deo Summer 2010
MIT Summer Research Program (MSRP)
Prototype Vision-based Navigation System for the Visually Impaired

Supervisor, Visiting Student Alejandro Perez January–August 2011
MIT, CSAIL
Anytime Optimal Motion Planning for Manipulation

Supervisor, MSRP Student Alejandro Perez Summer 2010
MIT Summer Research Program (MSRP)
Anytime Optimal Motion Planning

Co-supervisor, M.Eng. Student Yuan Wei June 2009
MIT, EECS
A Perception-Guided Approach to Motion and Manipulation Planning

Teaching

Robot Learning and Estimation (TTIC 31170)
Toyota Technological Institute at Chicago Spring 2015, 2017

Probabilistic Graphical Models (TTIC 31180)
Toyota Technological Institute at Chicago Spring 2016

Rapid Robotics: Autonomous Systems with Open Source Software
Massachusetts Institute of Technology Summer 2013, 2014, 2015

Guest Lectures

- Workshop on Natural Language Understanding for Robotics, RoCKIn Camp, January 2014
- Robotics: Science and Systems II, MIT, October 2010
- Robotics: Science and Systems I, MIT, April 2009
- Mobile Autonomous Systems Lab (MASLAB), MIT, January 2009
- Probabilistic Techniques for Mobile Robotics, MIT, October 2008
- Information Filter-based SLAM, Summer School on Simultaneous Localization and Mapping, August 2006

Publications

Manuscripts are available at `http://www.ttic.edu/ripl/publications.php` as well as on Google Scholar (link).

Journal Articles

[J1] C. Landsiedel, V. Rieser, M. R. Walter, and D. Wollherr, "A review of spatial reasoning and interaction for real-world robotics," *Advanced Robotics*, 2017.

[J2] M. R. Walter, M. Antone, E. Chuangsuwanich, A. Correa, R. Davis, L. Fletcher, E. Frazzoli, Y. Friedman, J. Glass, J. P. How, J. H. Jeon, S. Karaman, B. Luders, N. Roy, S. Tellex, and S. Teller, "A situationally-aware voice-commandable robotic forklift working alongside people in unstructured outdoor environments," *Journal of Field Robotics*, vol. 32, no. 4, pp. 590–628, 2015.

[J3] M. R. Walter, S. Hemachandra, B. Homberg, S. Tellex, and S. Teller, "A framework for learning semantic maps from grounded natural language descriptions," *International Journal of Robotics Research*, vol. 33, no. 9, pp. 1167–1190, 2014.

[J4] M. R. Walter, Y. Friedman, M. Antone, and S. Teller, "One-shot visual appearance learning for mobile manipulation," *International Journal of Robotics Research*, vol. 31, no. 4, pp. 554–567, 2012.

[J5] S. Tellex, T. Kollar, S. Dickerson, M. R. Walter, A. G. Banerjee, S. Teller, and N. Roy, "Approaching the symbol-grounding problem with probabilistic graphical models," *AI Magazine*, vol. 32, no. 4, pp. 64–76, 2011.

[J6] J. Leonard, J. How, S. Teller, M. Berger, S. Campbell, G. Fiore, L. Fletcher, E. Frazzoli, A. Huang, S. Karaman, O. Koch, Y. Kuwata, D. Moore, E. Olson, S. Peters, J. Teo, R. Truax, M. Walter, D. Barrett, A. Epstein, K. Maheloni, K. Moyer, T. Jones, R. Buckley, M. Antone, R. Galejs, S. Krishnamurthy, and J. Williams, "A perception-driven autonomous urban vehicle," in, M. Buehler, K. Iagnemma, and S. Singh, Eds., ser. Springer Tracts in Advanced Robotics. Berlin, Heidelberg: Springer-Verlag, 2010, vol. 56, ch. 5, pp. 163–230.

[J7] J. Leonard, J. How, S. Teller, M. Berger, S. Campbell, G. Fiore, L. Fletcher, E. Frazzoli, A. Huang, S. Karaman, O. Koch, Y. Kuwata, D. Moore, E. Olson, S. Peters, J. Teo, R. Truax, M. Walter, D. Barrett, A. Epstein, K. Maheloni, K. Moyer, T. Jones, R. Buckley, M. Antone, R. Galejs, S. Krishnamurthy, and J. Williams, "A perception-driven autonomous urban vehicle," *Journal of Field Robotics*, vol. 25, no. 10, pp. 727–774, 2008.

[J8] M. R. Walter, R. M. Eustice, and J. J. Leonard, "Exactly sparse extended information filters for feature-based SLAM," *International Journal of Robotics Research*, vol. 26, no. 4, pp. 335–359, 2007.

[J9] R. M. Eustice, H. Singh, J. J. Leonard, and M. R. Walter, "Visually mapping the RMS Titanic: Conservative covariance estimates for SLAM information filters," *International Journal of Robotics Research*, vol. 25, no. 12, pp. 1223–1242, 2006.

Refereed Conference Publications

[C1] A. F. Daniele, M. Bansal, and M. R. Walter, "Navigational instruction generation as inverse reinforcement learning with neural machine translation," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, Vienna, Austria, 2017.

[C2] D.-K. Kim and M. R. Walter, "Satellite image-based localization via learned embeddings," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Singapore, 2017.

[C3] H. Mei, M. Bansal, and M. R. Walter, "Coherent dialogue with attention-based language models," in *Proceedings of the National Conference on Artificial Intelligence (AAAI)*, San Francisco, CA, 2017.

[C4] C. Schaff, D. Yunis, A. Chakrabarti, and M. R. Walter, "Jointly optimizing placement and inference for beacon-based localization," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017.

[C5] D. J. Barber, T. M. Howard, and M. R. Walter, "A multimodal interface for real-time soldier-robot teaming," in *Proceedings of SPIE, Unmanned Systems Technology*, Baltimore, MD, 2016.

[C6] H. Mei, M. Bansal, and M. R. Walter, "Listen, attend, and walk: Neural mapping of navigational instructions to action sequences," in *Proceedings of the National Conference on Artificial Intelligence (AAAI)*, Phoenix, AZ, 2016, pp. 2772–2778.

[C7] ——, "What to talk about and how? Selective generation using LSTMs with coarse-to-fine alignment," in *Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics — Human Language Technologies (NAACL HLT)*, San Diego, CA, 2016, pp. 720–730.

[C8] J. Oh, T. M. Howard, M. R. Walter, D. Barber, M. Zhu, Z. Park, A. Suppe, L. Navarro-Serment, F. Duvallet, A. Boularias, O. Romero, J. Vinokurov, T. Keegan, R. Dean, craig Lennon, B. Bodt, M. Childers, J. Shi, K. daniilidis, N. Roy, C. Lebiere, M. Hebert, and A. Stentz, "Integrated intelligence for human-robot teams," in *Proceedings of the International Symposium on Experimental Robotics (ISER)*, Tokyo, Japan, 2016.

[C9] I. Chung, O. Propp, M. R. Walter, and T. M. Howard, "On the performance of hierarchical distributed correspondence graphs for efficient symbol grounding of robot instructions," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Hamburg, Germany, 2015.

[C10] S. Hemachandra and M. R. Walter, "Information-theoretic dialog to improve spatial-semantic representations," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Hamburg, Germany, 2015.

[C11] S. Hemachandra, F. Duvallet, T. M. Howard, N. Roy, A. Stentz, and M. R. Walter, "Learning models for following natural language directions in unknown environments," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Seattle, WA, 2015.

[C12] F. Duvallet, M. R. Walter, T. Howard, S. Hemachandra, J. Oh, S. Teller, N. Roy, and A. Stentz, "Inferring maps and behaviors from natural language instructions," in *Proceedings of the International Symposium on Experimental Robotics (ISER)*, Marrakech, Morocco, 2014.

[C13] S. Hemachandra, M. R. Walter, S. Tellex, and S. Teller, "Learning spatially-semantic representations from natural language descriptions and scene classifications," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Hong Kong, 2014.

[C14] S. Pillai, M. R. Walter, and S. Teller, "Learning articulated motions from visual demonstrations," in *Proceedings of Robotics: Science and Systems (RSS)*, Berkeley, CA, 2014.

[C15] M. R. Walter, S. Hemachandra, B. Homberg, S. Tellex, and S. Teller, "Learning semantic maps from natural language descriptions," in *Proceedings of Robotics: Science and Systems (RSS)*, Berlin, Germany, 2013.

[C16] S. Karaman, M. R. Walter, A. Perez, E. Frazzoli, and S. Teller, "Anytime motion planning using the RRT*," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Shanghai, China, 2011, pp. 1478–1483.

[C17] A. Perez, S. Karaman, A. Shkolnik, E. Frazzoli, S. Teller, and M. R. Walter, "Asymptotically-optimal path planning for manipulation using incremental sampling-based algorithms," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, San Francisco, CA, 2011, pp. 4307–4313.

[C18] S. Tellex, T. Kollar, S. Dickerson, M. R. Walter, A. G. Banerjee, S. Teller, and N. Roy, "Understanding natural language commands for robotic navigation and mobile manipulation," in *Proceedings of the National Conference on Artificial Intelligence (AAAI)*, San Francisco, CA, 2011, pp. 1507–1514.

[C19] A. Correa, M. R. Walter, L. Fletcher, J. Glass, S. Teller, and R. Davis, "Multimodal interaction with an autonomous forklift," in *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, Osaka, Japan, 2010, pp. 243–250.

[C20] O. Koch, M. R. Walter, A. S. Huang, and S. Teller, "Ground robot navigation using uncalibrated cameras," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Anchorage, AK, 2010, pp. 2423–2430.

[C21] S. Teller, M. R. Walter, M. Antone, A. Correa, R. Davis, L. Fletcher, E. Frazzoli, J. Glass, J. P. How, A. S. Huang, J. H. Jeon, S. Karaman, B. Luders, N. Roy, and T. Sainath, "A voice-commandable robotic forklift working alongside humans in minimally-prepared outdoor environments," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Anchorage, AK, 2010, pp. 526–533.

[C22] M. R. Walter, S. Karaman, E. Frazzoli, and S. Teller, "Closed-loop pallet engagement in unstructured environments," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Taipei, Taiwan, 2010, pp. 5119–5126.

[C23] M. R. Walter, Y. Friedman, M. Antone, and S. Teller, "Vision-based reacquisition for task-level control," in *Proceedings of the International Symposium on Experimental Robotics (ISER)*, New Delhi, India, 2010.

[C24] A. Bahr, M. R. Walter, and J. J. Leonard, "Consistent cooperative localization," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Kobe, Japan, 2009, pp. 3415–3422.

[C25] D. C. Moore, A. S. Huang, M. Walter, E. Olson, L. Fletcher, J. Leonard, and S. Teller, "Simultaneous local and global state estimation for robotic navigation," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Kobe, Japan, 2009, pp. 3794–3799.

[C26] A. Shkolnik, M. Walter, and R. Tedrake, "Reachability-guided sampling for planning under differential constraints," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Kobe, Japan, 2009, pp. 2859–2865.

[C27] M. Walter, F. Hover, and J. Leonard, "SLAM for ship hull inspection using exactly sparse extended information filters," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, Pasadena, CA, 2008, pp. 1463–1470.

[C28] R. Eustice, M. Walter, and J. Leonard, "Sparse extended information filters: Insights into sparsification," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Edmonton, Alberta, Canada, 2005, pp. 641–648.

[C29] R. Eustice, H. Singh, J. Leonard, M. Walter, and R. Ballard, "Visually navigating the RMS Titanic with SLAM information filters," in *Proceedings of Robotics: Science and Systems (RSS)*, Cambridge, MA, 2005, pp. 57–64.

[C30] E. Olson, M. Walter, S. Teller, and J. Leonard, "Single-cluster spectral graph partitioning for robotics applications," in *Proceedings of Robotics: Science and Systems (RSS)*, Cambridge, MA, 2005.

[C31] M. Walter, R. Eustice, and J. Leonard, "A provably consistent method for imposing exact sparsity in feature-based SLAM information filters," in *Proceedings of the International Symposium of Robotics Research (ISRR)*, San Francisco, CA: Springer, 2005, pp. 214–234.

[C32] M. Walter and J. Leonard, "An experimental investigation of cooperative SLAM," in *Proceedings of the IFAC Symposium on Intelligent Autonomous Vehicles (IAV)*, Lisbon, Portugal, 2004.

Refereed Workshop Publications

[W1] A. F. Daniele, M. Bansal, and M. R. Walter, "Natural language generation in the context of providing indoor route instructions," in *Proceedings Robotics: Science and Systems Workshop on Model Learning for Human-Robot Communication*, Ann Arbor, MI, 2016.

[W2] H. Mei, M. Bansal, and M. R. Walter, "Listen, attend, and walk: Neural mapping of navigational instructions to action sequences," in *Proceedings of Robotics: Science and Systems (RSS) Workshop on Model Learning for Human-Robot Communication*, Rome, Italy, 2015.

[W3] S. Hemachandra, M. R. Walter, and S. Teller, "Information theoretic question asking to improve spatial semantic representations," in *AAAI Fall Symposium on Knowledge, Skill, and Behavior Transfer in Autonomous Robots*, Arlington, VA, 2014.

[W4] S. Hemachandra and M. R. Walter, "Learning semantic maps through dialog for a voice-commandable wheelchair," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) Workshop on Rehabilitation and Assistive Robotics*, Chicago, IL, 2014.

[W5] T. M. Howard, I. Chung, O. Propp, M. R. Walter, and N. Roy, "Efficient natural language interfaces for assistive robots," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) Workshop on Rehabilitation and Assistive Robotics*, Chicago, IL, 2014.

[W6] S. Hemachandra, R. Finman, S. Teller, and M. R. Walter, "Towards enabling a robot to effectively assist people in human-occupied environments," in *Proceedings of the AAAI Spring Symposium*, Palo Alto, CA, 2012.

[W7] S. Tellex, P. Thaker, J. Joseph, M. R. Walter, and N. Roy, "Toward learning perceptually grounded word meanings from unaligned parallel data," in *Proceedings of the NAACL HLT Workshop on Semantic Interpretation in an Actionable Context*, Montréal, Canada, 2012, pp. 7–14.

[W8] A. Perez, S. Karaman, E. Frazzoli, S. Teller, and M. R. Walter, "Asymptotically-optimal path planning for manipulation using incremental sampling-based algorithms," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) PR2 Workshop*, San Francisco, CA, 2011.

[W9] S. Tellex, T. Kollar, S. Dickerson, M. R. Walter, A. Banerjee, S. Teller, and N. Roy, "Interpreting robotic mobile manipulation commands expressed in natural language," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA) Workshop on Manipulation Under Uncertainty*, Shanghai, China, 2011.

[W10] S. Karaman, M. R. Walter, E. Frazzoli, and S. Teller, "Closed-loop pallet engagement in an unstructured environment," in *Proceeding of the IEEE International Conference on Robotics and Automation (ICRA) Workshop on Mobile Manipulation*, Anchorage, AK, 2010.

[W11] M. R. Walter, Y. Friedman, M. Antone, and S. Teller, "Appearance-based object reacquisition for mobile manipulation," in *Proceedings of the IEEE Computer Vision and Pattern Recognition Workshops (CVPRW)*, San Francisco, CA, 2010.

Invited Talks

Natural Language Interaction in Unknown Environments
Northeastern University — April 2017

Learning to Follow (and Give) Natural Language Instructions in Unknown Environments
Robotics: Science and Systems (RSS) AC Meeting — April 2017

Smart Cars: Perception-Driven Autonomous Vehicles
Northwestern University — January 2017

Following Natural Language Instructions in Unknown Environments
University of Wisconsin, Madison — March 2016

Smart Cars: Perception-Driven Autonomous Vehicles
Northwestern University — February 2016

Following Natural Language Directions in Unknown Environments
Department of Electrical Engineering and Computer Science, University of Michigan
February 2016

Real-Time Analytics Onboard Self-Driving Cars
The University of Chicago Booth School of Business — August 2015

Perception-Driven Autonomous Vehicles
The University of Chicago Booth School of Business — May 2015

Inferring Cognitive Models of Space and Action from Natural Language
Computer Science and Artificial Intelligence Laboratory, MIT — August 2014

Learning Semantic Maps from Natural Language Descriptions
Department of Computer Science, Worcester Polytechnic Institute — April 2014

Learning Semantic Maps from Natural Language Descriptions
Department of Computer Science, Cornell University — April 2014

Learning Cognitive Models from Machine Vision and Natural Language

Department of Computer Science, Northeastern University April 2014

Learning Cognitive Models from Machine Vision and Natural Language
Department of Computer Science, Rutgers University February 2014

Learning Cognitive Models from Machine Vision and Natural Language
Toyota Technological Institute at Chicago February 2014

Acquiring Rich Models of Objects and Space Through Vision and Natural Language
Queensland University of Technology July 2013

Acquiring Rich Models of Objects and Space Through Vision and Natural Language
NASA Ames Research Center July 2013

Acquiring Rich Models of Objects and Space Through Vision and Natural Language
Johns Hopkins University Applied Physics Laboratory June 2013

Acquiring Rich Models of Objects and Space Through Vision and Natural Language
Department of Mechanical Engineering, Texas A&M University May 2013

Acquiring Rich Models of Objects and Space Through Vision and Natural Language
School of Computer Science, University of Massachusetts Amherst February 2013

Acquiring Rich Models of Objects and Space Through Vision and Natural Language
IROS Workshop on Active Semantic Perception October 2012

Intuitive Interaction with Autonomous Robots in Unstructured Environments
Inria Paris-Rocquencourt April 2012

Intuitive Interaction with Autonomous Robots in Unstructured Environments
Inria Sophia Antipolis-Méditerranée April 2012

Intuitive Interaction with Autonomous Robots in Unstructured Environments
Vecna Technologies April 2012

Intuitive Interaction with Autonomous Robots in Unstructured Environments
Institute for Aerospace Studies, University of Toronto February 2012

Persistent Visual Memories for Object Manipulation
MIT Intelligence Initiative Workshop January 2012

Multimodal Interaction with an Autonomous Forklift
Spoken Language Systems Group, MIT May 2010

Voice-Commandable Autonomous Forklift for Operation in Semi-Structured Environments
Ecole Polytechnique Fédérale de Lausanne July 2009

Awards

- Best Paper, NIPS Multimodal Machine Learning Workshop, 2015
- Best Application Paper Award Nominee, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2011
- National Defense Science and Engineering Graduate (NDSEG) Fellowship
- Bernt O. Larson Award, University of Illinois at Urbana-Champaign, 2001

Professional Activities

Oceanographic Expeditions

- Acoustic mapping of ship hulls with Bluefin HAUV, Panama City, June 2007
- Ocean-acoustic sampling and prediction with two Bluefin-21s and several autonomous surface craft, Focused Acoustic Forecasting (FAF), Pianosa, Italy, July 2005
- Cooperative acoustic navigation and mapping for mine counter measures with two Bluefin-21s, Generic Oceanographic Array Technology Systems (GOATS), Pianosa, Italy, July 2004

Workshop Organization

- Co-organizer, Families@RSS, (2017)
- Founder and Organizer, Midwest Robotics Workshop (MWRW), (2016)
- Co-organizer (with Ram Vasudevan), Midwest Robotics Workshop (MWRW), (2017)
- Steering Committee Member, Midwest Robotics Workshop (MWRW), (2015–present)
- Co-founder and Co-organizer (with George Konidaris and Stefanie Tellex), Northeast Robotics Colloquium (NERC), (2012)
- Steering Committee Member, Northeast Robotics Colloquium (NERC), (2012–present)
- Co-founder and Co-organizer (with Thomas Howard), RSS Workshop on Model Learning for Human-Robot Communication, (2015)
- Co-organizer (with Thomas Howard), RSS Workshop on Model Learning for Human-Robot Communication, (2016)
- Co-organizer (with Thomas Howard), RSS Workshop on Spatial-Semantic Representations for Robotics (SSRR), (2017)

Editorial Activities

- Senior Editor, Advanced Robotics, (2016)
- Associate Editor, International Conference on Intelligent Robots and Systems (IROS), (2015, 2016)
- Associate Editor, International Conference on Robotics and Automation (ICRA), (2016, 2017)
- Area Chair, Robotics: Science and Systems, (2017)

Program Committees

- Artificial Intelligence and Statistics (AISTATS), (2017)
- Association for Computational Linguistics (ACL), (2017)
- Association for the Advancement of Artificial Intelligence (AAAI), (2018)
- European Chapter of the Association for Computational Linguistics (EACL), (2017)
- International Symposium on Experimental Robotics (ISER), (2014)
- Language Grounding for Robotics (RoboNLP), (2017)
- Neural Information Processing Systems (NIPS), (2016, 2017)
- Robotics: Science and Systems (RSS), (2005, 2012, 2013, 2016)
- Symbolic-Neural Learning (SNL), (2017)

Reviewer

- **Conferences**: International Conference on Biomedical Robotics and Biomechatronics (BioRob); International Conference on Field and Service Robotics (FSR); International Conference on Human-Robot Interaction (HRI); International Conference on Intelligent Robots and Systems (IROS); International Conference on Robotics and Automation (ICRA); International Offshore and Polar Engineering Conference (ISOPE); National Conference on Artificial Intelligence (AAAI); Neural Information Processing

Systems (NIPS); Robotics: Science and Systems (RSS).
- **Journals**: Autonomous Robots; IEEE Journal of Oceanic Engineering; IEEE Transactions on Aerospace and Electronic Systems; IEEE Transactions on Robotics; IEEE Transactions on Systems, Man, and Cybernetics; International Journal of Computer Vision; International Journal of Robotics Research; Journal of Translational Engineering in Health and Medicine; Journal of Translational Engineering in Health and Medicine; Robotics and Automation Magazine; Robotics and Autonomous Systems.

University Service

- Secretary, Faculty Search Committee, 2016
- Organizer, Young Researcher Seminar Series, 2015–present

Outreach Activities

A subset of community outreach activities:
- Guest Lecturer, Girls Who Code, July 2017
- Exhibitor, Museum of Science and Industry National Robotics Week, April 2017
- Guest Lecturer, Girls Who Code, July 2016
- Guest Lecturer, Chicago City Data User Group, April 2016
- Exhibitor, Cambridge Science Festival, April 2013
- Mentor, YearUp Boston, 2009–2010
- Guest Lecturer, YearUp Boston, November 2009
- Guest Lecturer, Center for Talented Youth (CTY) Robotics Workshop, April 2009

Affiliations

- Institute of Electrical and Electronics Engineers (IEEE)
- IEEE Robotics and Automation Society (RAS)
- American Association for the Advancement of Science (AAAS)
- Association for Computing Machinery (ACM)