NICK WALKER

Ph.D. Student in Computer Science

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Education

2018— The University of Washington, Seattle, WA.
- Ph.D. Computer Science

2014–18 The University of Texas, Austin, TX.
- BSA Computer Science
- Polymathic Scholar (Interdisciplinary Honors)

Conference

[c6] "Human Perceptions of a Curious Robot that Performs Off-Task Actions." N. Walker, K. Weatherwax, J. Alchin, L. Takayama, M. Cakmak. *ACM/IEEE Int. Conf. Human-Robot Interaction*. Oxford, UK, March 2020

[c5] "Open-World Reasoning for Service Robots." Y. Jiang, N. Walker, J. Hart, P. Stone. *Proc. 29th Int. Conf. Automated Planning Scheduling*. Berkeley, July 2019

[c4] "Improving Grounded Natural Language Understanding through Human-Robot Dialog." J. Thomason, A. Padmakumar, J. Sinapov, N. Walker, Y. Jiang, H. Yedidsion, J. Hart, P. Stone, R. J. Mooney. *Int. Conf. Robotics Automation*. Montreal, May 2019

[c3] "PRISM: Pose Registration for Integrated Semantic Mapping." J. W. Hart, R. Shah, S. Kirmani, N. Walker, K. Baldauf, N. John, P. Stone. *2018 IEEE/RSJ Int. Conf. Intelligent Robots Systems*. Madrid, Spain, October 2018

[c2] "Automatic Curriculum Graph Generation for Reinforcement Learning Agents." M. Svetlik, M. Leonetti, J. Sinapov, R. Shah, N. Walker, P. Stone. *Proc. Thirty-First AAAI Conf. Artificial Intelligence*. San Francisco, February 2017

[c1] "Wearable ear EEG for brain interfacing." E. D. Schroeder, N. Walker, A. S. Danko. *Proc. of SPIE 10051, Neural Imaging Sensing*. San Francisco, February 2017

Journal

[j1] "Jointly Improving Parsing and Perception for Natural Language Commands through Human-Robot Dialog." J. Thomason, A. Padmakumar, J. Sinapov, N. Walker, Y. Jiang, H. Yedidsion, J. Hart, P. Stone, R. J. Mooney. *Journal of Artificial Intelligence Research*. February 2020

Refereed Symposium, Workshop

[w4] "Desiderata for Planning Systems in General-Purpose Service Robots." N. Walker, Y. Jiang, M. Cakmak, P. Stone. *Proc. of 2019 ICAPS Workshop Planning Robotics*. Berkeley, July 2019

[w3] "Neural Semantic Parsing with Anonymization for Command Understanding in General-Purpose Service Robots." N. Walker, Y.-T. Peng, M. Cakmak. *RoboCup 2019: Robot Soccer World Cup XXIII*. Sydney, July 2019

[w2] "LAAIR: A Layered Architecture for Autonomous Interactive Robots." Y. Jiang, N. Walker, M. Kim, N. Brissonneau, D. S. Brown, J. W. Hart, S. Niekum, L. Sentis, P. Stone. *AAAI Fall Symp. Reasoning Learning in Real-World Systems for Long-Term Autonomy*. Arlington, October 2018

[w1] "Interaction and Autonomy in RoboCup@Home and Building-Wide Intelligence." J. Hart, H. Yedidsion, Y. Jiang, N. Walker, R. Shah, J. Thomason, A. Padmakumar, R. Fernandez, J. Sinapov, R. Mooney, P. Stone. *AAAI Fall Symp. Artificial Intelligence Human-Robot Interaction*. Arlington, October 2018

Presentations

2020 Human Perceptions of a Curious Robot that Performs Off-Task Actions. N. Walker. Human-Robot Interaction. Oxford. Video.

2019 Human Perceptions of a Curious Robot that Performs Off-Task Actions. N. Walker. Honda Research Institute Curious Minded Machines Workshop. San Jose. Oral.

2019 Desiderata for Planning Systems in General Purpose Service Robots. N. Walker. ICAPS PlanRob Workshop. Berkeley. Oral.

2019 Neural Semantic Parsing with Anonymization for Command Understanding in General Purpose Service Robots. N. Walker. RoboCup Symposium. Sydney. Oral.

2018 UT Austin Villa@Home. N. Walker for UT Austin Villa. RoboCup@Home Domestic Standard Platform League. Sydney. Oral. **Best DSPL Poster.**

2017 Automatic Curriculum Graph Generation for Reinforcement Learning Agents. N. Walker, R. Shah. AAAI. San Francisco. Poster.

Recognition

2020— Graduate Research Fellowship – *National Science Foundation*

2018–19 Computer Science & Engineering Research Fellowship – *Allen School, UW*

2018 Best Poster, with UT Austin Villa – *RoboCup@Home DSPL*

2018 Commencement Student Speaker – *College of Natural Sciences, UT*

2018 GRFP Honorable Mention – *National Science Foundation*

2018 Dean's Honored Graduate – *College of Natural Sciences, UT*

2018 Outstanding Undergraduate Researcher Award Honorable Mention – *Computing Research Association*

2017 TIDES Fellowship – *Texas Institute for Discovery Education in Science, UT*

2014–18 College of Natural Sciences Scholarship – *College of Natural Sciences, UT*

Grants Received

2020 A Speech and Language Dataset of GPSR Commands (League Development Grant) – *RoboCup Federation*

Meeting Participation

2020 RSS, virtual

2020 HRI, virtual
2019 Honda Research Institute Curious Minded Machine Workshop, San Jose
2019 ICAPS, Berkeley
2019 RoboCup, Sydney
2018 AAAI Fall Symposium Series, Arlington
2018 RoboCup, Montreal
2017 Toyota Research Institute HSR Training, Palo Alto
2017 AAAI, San Francisco

Research Competitions

2018 5th Place, UT Austin Villa@Home – *RoboCup@Home DSPL*
2017 3rd Place, UT Austin Villa@Home – *RoboCup@Home DSPL*

Research Affiliations

2018— Human-Centered Robotics Lab – *University of Washington*
- PI: Maya Cakmak

2017–18 UT Austin Villa@Home – *University of Texas at Austin*
- PIs: P. Stone, L. Sentis, S. Niekum, A. Thomaz, R. Mooney. Supervisor: Justin Hart

2015–18 Building-Wide Intelligence Project – *UT AI Lab*
- PI: Peter Stone. Supervisors: Matteo Leonetti, Jivko Sinapov, Justin Hart

Outreach

2019 Demo Assistant – *UW Engineering Discovery Days*
- Organized and helped run an exhibit demonstrating our lab's research

2019 Program Assistant – *UTCS Robotics Camp*
- Helped high school students assemble robot kit, program intelligent behaviors

2017, 2018 Demo Assistant – *Explore UT*
- Ran demos on our robots and explained lab's research to community members

2017, 2018 Workshop Assistant – *UT Introduce a Girl to Engineering Day*
- Taught grade school girls about electricity using Play-Doh and LEDs

2017, 2018 Workshop Instructor – *UT Computer Science, Code Longhorn & First Bytes Camps*
- Taught high school students from underrepresented groups about web technologies

2016–18 Peer Mentor – *Freshman Research Initiative*
- Helped first- and second-year students formulate their research projects

Service

2020 Reviewer – *IEEE Trans. Cognitive Developmental Systems*
2020 NSF GRFP Seminar Coordinator – *Allen School Graduate Student Committee, UW*
2020 Organizer – *Practical Service Robots Workshop, RSS*
2020 Organizer – *Imitation Learning Workshop, RSS*
2019— Technical Committee – *RoboCup@Home*

2019— Peer Mentor – *Allen School First Year Graduate Student Mentoring, UW*
2019 Reviewer – *ICRA*
2018 Reader – *Allen School Ph.D. Admissions Committee, UW*

Work and Teaching Experience

Winter 2019 Teaching Assistant – *UW CSE 481C*
- Developed assignments and supported undergraduates using the Kuri robot for their robotics capstone course

Summer 2016 Research Engineer Intern – *USAA*
- Developed experimental brain-computer interface software and hardware
- Work contributed to a SPIE conference publication

Summer 2015 Research Engineer Intern – *USAA*
- Characterized the performance of automated speech transcription vendors
- Developed evaluation methodology that led to a patent application

Skills

- Experienced with robotics software – *ROS, C++, Python*
- Experienced with robotics platforms – *Fetch, Kuri, HSR, BWIBot*
- Proficient with web technologies – *PHP, Typescript, HTML, CSS*
- Handy with creative tasks – *Premiere, Photoshop, Illustrator, InDesign*

Personal

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flickr.com/photos/nickwalker-us