

NICK WALKER

Ph.D. Student in Computer Science

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nickwalker.us

EDUCATION

- 2018– The University of Washington, Seattle, WA.
- Ph.D. Computer Science
- 2014–2018 The University of Texas, Austin, TX.
- BSA Computer Science Honors
 - Polymathic Scholar (Interdisciplinary Honors)

CONFERENCE

- [c6] N. Walker, K. Weatherwax, J. Allchin, L. Takayama, M. Cakmak. Perceptions of a Curious Robot that Performs Off-Task Actions. In *Proc. of ACM/IEEE Conf. Human Robot Interaction*. Cambridge, March 2020
- [c5] Y. Jiang*, N. Walker*, J. W. Hart, P. Stone. Open-World Reasoning for Service Robots. In *Proc. Int. Conf. Automated Planning Scheduling (ICAPS)*. Berkeley, July 2019
- [c4] J. Thomason, A. Padmakumar, J. Sinapov, N. Walker, Y. Jiang, H. Yedidsion, J. W. Hart, P. Stone, R. Mooney. Improving Grounded Natural Language Understanding through Human-Robot Dialog. In *Proc. Int. Conf. Robotics Automation (ICRA)*. Montreal, May 2019
- [c3] J. Hart, R. Shah, S. Kirmani, N. Walker, K. Baldauf, N. John, P. Stone. PRISM: Pose Registration for Integrated Semantic Mapping. In *Proc. IEEE/RSJ Int. Conf. Intelligent Robots and Systems (IROS)*. Madrid, July 2018
- [c2] M. Svetlick, M. Leonetti, J. Sinapov, R. Shah, N. Walker, P. Stone. Automatic Curriculum Graph Generation for Reinforcement Learning Agents. In *Proc. 31st AAAI Conf. Artificial Intelligence*. San Francisco, February 2017
- [c1] E. Schroeder, N. Walker, A. Danko. Wearable Ear EEG for Brain Interfacing. In *Proc. SPIE Neural Imaging Sensing*. San Francisco, February 2017

JOURNAL

- [j1] J. Thomason, A. Padmakumar, J. Sinapov, N. Walker, Y. Jiang, H. Yedidsion, J. W. Hart, P. Stone, R. Mooney. Jointly Improving Parsing and Perception for Natural Language Commands through Human-Robot Dialog. To appear in *J. Artificial Intelligence Res. (JAIR)*. February 2020

REFEREED SYMPOSIUM, WORKSHOP

- [w4] N. Walker*, Y. Jiang*, P. Stone, M. Cakmak. Desiderata for Planning Systems in General-Purpose Service Robots. *ICAPS PlanRob Workshop*. Berkeley, July 2019
- [w3] N. Walker, Y. Peng, M. Cakmak. Neural Semantic Parsing with Anonymization for Command Understanding in General-Purpose Service Robots. *RoboCup 2019: Robot World Cup XXIII*. Sydney 2019
- [w2] Y. Jiang*, N. Walker*, M. Kim, N. Brissonneau, D. S. Brown, J. W. Hart, S. Niekum, L. Sentis and P. Stone. LAAIR: A Layered Architecture for Autonomous Interactive Robots.

- In *AAAI Fall Symposium on Reasoning and Learning in Real World Systems for Long-term Autonomy*. Arlington, October 2018
- [wl] J. W. Hart, H. Yedidsion, Y. Jiang, N. Walker, R. Shah, J. Thomason, A. Padmakumar, R. Fernandez, J. Sinapov, R. Mooney and P. Stone. Interaction and Autonomy in RoboCup@Home and Building-Wide Intelligence. In *AAAI Fall Symposium on Interactive Learning in Artificial Intelligence for Human-Robot Interaction*. Arlington, October 2018

PRESENTATIONS

- 2019 Perceptions of a Curious Robot's Off-Task Actions. Honda Research Institute Curious Minded Machines Workshop 2019, San Jose. N. Walker. Oral.
- 2019 Desiderata for Planning for Planning Systems in General Purpose Service Robots. ICAPS PlanRob Workshop 2019, Berkeley. N. Walker. Oral.
- 2019 Neural Semantic Parsing with Anonymization for Command Understanding in General Purpose Service Robots. RoboCup Symposium 2019, Sydney. N. Walker. Oral.
- 2018 UT Austin Villa@Home. RoboCup@Home Domestic Standard Platform League 2018, Montreal. N. Walker for UT Austin Villa. Poster. **Best DSPL Poster**.
- 2017 Automatic Curriculum Graph Generation for Reinforcement Learning Agents. AAAI 2017, San Francisco. N. Walker, R. Shah. Oral Spotlight, Poster.

RECOGNITION

- 2018-19 Computer Science & Engineering Research Fellowship – Allen School, UW
- 2018 Best Poster for DSPL 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

RESEARCH COMPETITIONS

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

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
- 2018 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 Workshop Assistant – *UT Introduce a Girl to Engineering Day*
 - Taught grade school girls about electricity using Play-Doh and LEDs
- 2016, 2017 Workshop Instructor – *UT Computer Science, Code Longhorn & First Bytes*
 - 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

- 2019-20 Technical Committee - *RoboCup@Home*
- 2019-20 Peer Mentor – *Allen School First Year Graduate Student Mentoring*
- 2019 Reviewer – *ICRA*
- 2018-19 Contributor – *RoboCup@Home Rulebook*
- 2018-19 Reader – *Allen School Ph.D. Admissions Committee*

GRANTS RECEIVED

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

MEETING PARTICIPATION

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

WORK AND TEACHING EXPERIENCE

- Winter 2019 Teaching Assistant – *UW CSE 517A*
 - 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

- Experience with robotics software (*ROS, C++, Python*)
- Experience with robotics platforms (*Fetch, Kuri, HSR, BWIBot*)
- Proficient in embedded development (*C, C++*)
- Proficient with web technologies (*PHP, Typescript, HTML, CSS*)
- Handy with creative tasks in Photoshop, Illustrator, InDesign, Premiere

PERSONALnickwalker.ustwitter.com/nickwalker_uslinkedin.com/in/niwalkergithub.com/nickswalkerflickr.com/photos/nickwalker-us/