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)

IN REVIEW

[B]   M. Kim, M. Arduengo, N. Walker, Y. Jiang, J. W. Hart, P. Stone, L. Sentis. An Architecture for Person-Following using Active Target Search. In review at *ICRA*.

CONFERENCE

[c6]   N. Walker, K. Weatherwax, J. Allchin, L. Takayama, M. Cakmak. Perceptions of a Curious Robot's Off-Task Actions. To appear 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. Artifical 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

[w1]   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 RECEIVEDE

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

Personal

🏠	nickwalker.us	⌨	github.com/nickswalker
🐦	twitter.com/nickwalker_us	🖼	flickr.com/photos/nickwalker-us/
in	linkedin.com/in/niwalker		