NICK WALKER

Ph.D. Student in Computer Science

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Education

2018— **University of Washington** – *Seattle, WA*
- Ph.D. Computer Science
- Advisor: Maya Cakmak

2018–20 **University of Washington** – *Seattle, WA*
- M.S. Computer Science

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

Conference

[c9] **"Not All Who Wander Are Lost: A Localization-Free System for In-the-Wild Mobile Robot Deployments."** A. Nanavati*, N. Walker*, L. Taber, C. Mavrogiannis, L. Takayama, M. Cakmak, S. Srinivasa. *Proc. 2022 ACM/IEEE Int. Conf. Human-Robot Interaction*. Sapporo, Hokkaido, Japan, Mar. 2022

[c8] **"Influencing Behavioral Attributions to Robot Motion During Task Execution."** N. Walker, C. Mavrogiannis, S. Srinivasa, M. Cakmak. *Conf. Robot Learning*. London, UK, Nov. 2021

[c7] **"Learning Backchanneling Behaviors for a Social Robot via Data Augmentation from Human-Human Conversations."** M. Murray, N. Walker, A. Nanavati, P. Alves-Oliveira, N. Filippov, A. Sauppe, B. Mutlu, M. Cakmak. *Conf. Robot Learning*. London, UK, Nov. 2021

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

[c5] **"Open-World Reasoning for Service Robots."** Y. Jiang*, N. Walker*, J. Hart, P. Stone. *Proc. 29th Int. Conf. Automated Planning Scheduling*. Berkeley, Jul. 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, Oct. 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, Feb. 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, Feb. 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*. Feb. 2020

Refereed Symposium, Workshop

[w5] **"Influencing Behavioral Attributions to Robot Motion During Task Execution."** N. Walker, C. Mavrogiannis, S. Srinivasa, M. Cakmak. *Proc. 2021 ICRA Workshop Modern Approaches for Intrinsically-Motivated Intelligent Behavior.* Xi'an, China, Jun. 2021

[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, Jul. 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, Jul. 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, Oct. 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, Oct. 2018

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*

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

2022 Organizer – *Northwest Robotics Symposium*

2020 NSF GRFP Seminar Coordinator – *Allen School Graduate Student Committee, UW*
2020 Organizer – *Practical Service Robots Workshop, RSS*
2020 Organizer – *Imitation Learning Workshop, RSS*
2019–20 Technical Committee – *RoboCup@Home*
2019–21 Peer Mentor – *Allen School First Year Graduate Student Mentoring, UW*
2018 Reader – *Allen School Ph.D. Admissions Committee, UW*

Reviewing

HRI	2023, 2022	TAFFC	2022, 2021	SSRR	2021
IJSR	2023, 2022	ICRA	2021, 2019	Sci. Rob.	2021
IROS	2023, 2021	RA-L	2021	TCDS	2020
CoRL	2022	RSS	2021	THRI	2020

Work and Teaching Experience

2022 Su. **Research Intern** – *NVIDIA*
- Worked with Seattle Robotics Lab researchers

2021 Sp. **Teaching Assistant** – *UW CSE 478 (Robotics)*
- Updated assignments based on an autonomous race-car platform

2019 Wi. **Teaching Assistant** – *UW CSE 481C (Robotics Capstone)*
- Developed assignments and supported undergraduates using the Kuri robot

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

2015 Su. **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 – *Stretch, Fetch, Kuri, HSR*
- Proficient with user research – *Study Design, Hypothesis Testing, Amazon Mechanical Turk*
- Proficient with machine learning techniques, tools – *PyTorch, Numpy, Pandas*
- Proficient with web technologies – *PHP, Typescript, HTML, CSS*
- Handy with digital media – *Premiere, Photoshop, Illustrator, InDesign*

Personal

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