

# 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)

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## 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. S. Srinivasa. *Proc. 2022 ACM/IEEE Int. Conf. Human-Robot Interaction*. Virtual, 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. Filipov, 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

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## 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 – <i>Allen School Graduate Student Committee, UW</i>
2020	Organizer – <i>Practical Service Robots Workshop, RSS</i>
2020	Organizer – <i>Imitation Learning Workshop, RSS</i>
2019–20	Technical Committee – <i>RoboCup@Home</i>
2019–21	Peer Mentor – <i>Allen School First Year Graduate Student Mentoring, UW</i>
2018	Reader – <i>Allen School Ph.D. Admissions Committee, UW</i>

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## REVIEWING

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

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## WORK AND TEACHING EXPERIENCE

2021 Sp.	Teaching Assistant – <i>UWCSE 478 (Robotics)</i> • Updated assignments based on an autonomous race-car platform
2019 Wi.	Teaching Assistant – <i>UWCSE 481C (Robotics Capstone)</i> • Developed assignments and supported undergraduates using the Kuri robot
2016 Su.	Research Engineer Intern – <i>USAA</i> • Developed experimental brain-computer interface software and hardware • Work contributed to a SPIE conference publication
2015 Su.	Research Engineer Intern – <i>USAA</i> • Characterized the performance of automated speech transcription vendors • Developed evaluation methodology that led to a patent application

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## 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*

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## PERSONAL

- 🏠 [nickwalker.us](http://nickwalker.us)
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- 📺 [flickr.com/photos/nickwalker-us](https://www.flickr.com/photos/nickwalker-us/)