NICK WALKER

B.S.A. Computer Science, May 2018

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Education

May 2018 **The University of Texas at Austin** GPA: 3.94

- B.S.A., Honors in Computer Science
- Relevant courses: Reinforcement Learning, Artificial Intelligence, Neural Networks, Computer Vision/Machine Learning, Intro Computational Linguistics, Autonomous Intelligent Robotics, Robot Learning, Human-Robot Interaction, User Research
- **Polymathic Scholar (Interdisciplinary Honors)**
  - Thesis area title: *Information, Interfaces, and Friction*
- Bridging Disciplines certificate in **Digital Arts and Media**
  - Relevant courses: Computer Graphics, Creative Coding, 3D Production

Publications

2017 **Automatic Curriculum Graph Generation for Reinforcement Learning Agents**
M. Svetlick, M. Leonetti, J. Sinapov, R. Shah, N. Walker, P. Stone. In *Proc. 31st AAAI Conf. Artificial Intelligence*. San Francisco, February 2017

2017 **Wearable Ear EEG for Brain Interfacing**
E. Schroeder, N. Walker, A. Danko. In *Proc. SPIE Neural Imaging Sensing.* San Francisco, February 2017

Presentations

Spring 2017 **Undergraduate Research Forum, UT Austin.** Automatic Curriculum Graph Generation for Reinforcement Learning Agents. N. Walker, R. Shah. Poster.

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

Fall 2016 **Fall Undergraduate Research Symposium, UT Austin.** Automatic Curriculum Graph Generation for Reinforcement Learning Agents. R. Shah, N. Walker. Oral Presentation.

Research Affiliations

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

- Interdepartmental effort for RoboCup@Home DSPL
- I received Toyota Research Institute training, provided technical leadership to team
- Team placed 3rd in the world and the highest amongst the U.S. teams

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

- Investigates how service robots can become a fixture in a building environment.
- I mentor students in the lab's Autonomous Intelligent Robotics courses
- Previously, I helped integrate a Kinova Mico arm into the BWI platform

Current Projects

Transfer learning for multi-modal object exploration – *Supervisor: Jivko Sinapov*

- We seek to accelerate multimodal object exploration by transferring knowledge learned on one robot to another.

Intelligent idle behaviors to improve perceptions of a robot – *Supervisor: Justin Hart*

- An independent research project to see whether a robot's behavior during motion planning can affect an onlooker's perception of the robot's speed and performance. I have run pilot experiments and received an Undergraduate Research Fellowship to conduct full trials.

Recognition

2018 Outstanding Undergraduate Researcher Award Honorable Mention
Computing Research Association
2017–2018 Undergraduate Research Fellowship – *UT Office of Undergraduate Research*
2017–2018 Angus G. and Erna Pearson Endowed Undergraduate Scholarship – *UT Dept. of CS*
2017 FRI Travel Grant – *Freshman Research Initiative*
2017 TIDES Fellowship – *Texas Institute for Discovery Education in Science*
2016– College Scholar – *UT College of Natural Sciences*
2014– University Honors (GPA Honors) – *UT Austin*
2014– College of Natural Sciences Scholarship – *UT College of Natural Sciences*
2014– Dr. Charles and Mary Love Bailey Scholarship – *Texas Exes*
2014– Hispanic Faculty/Staff Association Scholarship – *Texas Exes*

Service

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

2017 **Explore UT** – Lab Demo Assistant
- Ran demos on our robots and explained BWI's research to members of the community

2016, 2017 **UT Computer Science, Code Longhorn & First Bytes** – Web Workshop Instructor
- Taught high school students from underrepresented groups about web technologies

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

Work Experience

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

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

Skills

- Experience with robotics **(ROS, C++, Python)**, multiple platforms **(HSR, BWIArmBot)**
- Experienced with iOS development **(Swift)**
- Proficient in embedded development **(C, C++)**
- Proficient with web technologies **(PHP, Typescript, HTML, CSS)**
- Handy with creative tasks in Photoshop, Illustrator, InDesign, Premiere

Leadership

2015–2017 **Mobile Application Development (student org.)** – Tech Director, iOS Instructor

- Lead teams of student developers working on pro-bono projects
- Lead teams to develop apps for MADcon, a free developer conference
- Taught introductory iOS development workshops

Personal

linkedin.com/in/niwalker
github.com/nickswalker
flickr.com/photos/nickwalker-us/
nickwalker.us

Interests: Classical violin, photography, fencing (foil, USFA B2012), type design