

Wil Thomason

CONTACT INFORMATION	Cornell University Department of Computer Science 343 Campus Road Ithaca, NY 14853	804.591.7318 wbthomason@cs.cornell.edu https://www.cs.cornell.edu/~wil
RESEARCH INTERESTS	Robotics, integrated task and motion planning, ML for planning, constrained planning, formal methods for robotics, synthesis, motion planning, multi-agent coordination	
PROFESSIONAL EXPERIENCE	Graduate Research Assistant VRRG , Department of Computer Science, Cornell University.	<i>January 2020 – Present</i>
	Graduate Research Assistant Robotic Personal Assistants Lab, Department of Computer Science, Cornell University.	<i>August 2015 – December 2019</i>
	Software Engineering Intern Fluencia, Alexandria, VA. Worked on adding voice recognition for speech practice exercises.	<i>May 2015 – August 2015</i>
	Undergraduate Research Assistant Department of Computer Science, The University of Virginia. Work with Professor Westley Weimer on automatic software functionality transplantation.	<i>August 2014 – July 2015</i>
	Software Development Engineer Intern Accounts Client Team, Microsoft, Redmond, WA. Implemented cryptographic operations and network protocol for passwordless login feature in Microsoft Accounts Android app.	<i>May 2014 – August 2014</i>
	Software Development Engineer Intern Xbox LIVE Cloud Security Team, Microsoft, Redmond, WA. Designed and implemented a service for real-time logging and auditing of security records in Xbox LIVE. Initiated and completed a rewrite of an internal library to improve performance and provide a better API.	<i>May 2013 – August 2013</i>
	Undergraduate Research Assistant Department of Computer Science, The University of Virginia. Work with Professor Gabriel Robins on real-time localization of objects using passive RFID tags.	<i>January 2013 – May 2014</i>
EDUCATION	Cornell University , Ithaca, NY <i>Ph.D. in Computer Science.</i> Advisor: Hadas Kress-Gazit.	Present
	Cornell University , Ithaca, NY <i>MS in Computer Science.</i> Advisor: Ross A. Knepper.	June 2019
	University of Virginia , Charlottesville, VA <i>BS (with high distinction) in Computer Science and Mathematics</i>	August 2012 – May 2015
AWARDS	Outstanding Teaching Assistant Award <i>Cornell University Department of Computer Science</i>	May 2017
	NDSEG Fellow <i>American Society for Engineering Education</i>	April 2017
	NSF GRFP Fellow <i>The National Science Foundation</i>	March 2017
	Outstanding Teaching Assistant Award <i>Cornell University Department of Computer Science</i>	May 2016

NSF GRFP Honorable Mention
The National Science Foundation

March 2016

Louis T. Rader Outstanding Education Undergraduate Student May 2015
University of Virginia Department of Computer Science

PEER-REVIEWED
CONFERENCE
PUBLICATIONS

5. *Ensuring Safety and Progress for Independent Multi-Robot Teams in Shared Space*. **Wil Thomason**, Claire Liang, Elizabeth Ricci, and Soham Sankaran. WAFR 2020, in submission.
4. *Automatic Distributed Multi-Agent Coordination of Single-Agent Robot Controllers*. **Wil Thomason**, Abhishek Anand, Greg Morrisett, Ross Knepper. IROS 2020, in submission.
3. *A Unified Sampling-Based Approach to Integrated Task and Motion Planning*. **Wil Thomason**, Ross Knepper. ISRR 2019.
2. *Social Momentum: A Framework for Legible Navigation in Dynamic Multi-Agent Environments*. Christoforos Mavrogiannis, **Wil Thomason**, Ross Knepper. HRI 2018.
1. *Zero-Shot Learning for Unfamiliar Gesture Recognition*. **Wil Thomason**, Ross Knepper. ISER 2016.

JOURNAL
PUBLICATIONS

2. *Automatic Distributed Multi-Agent Coordination of Single-Agent Robot Controllers*. **Wil Thomason**, Abhishek Anand, Greg Morrisett, Ross Knepper. Robotics and Automation Letters. February 2020, in submission.
1. *An Accurate Real-Time RFID-Based Location System*. Kirti Chawla, Christopher McFarland, Gabriel Robins, **Wil Thomason**. International Journal of Radio Frequency Identification Technology and Applications. July 2016, authors listed in alphabetical order.

WORKSHOP
PRESENTATIONS

- “A Flexible Sampling-Based Approach to Task and Motion Planning.” June 23, 2019. *RSS 2019 Workshop on Robust Task and Motion Planning*
- “Which comes first, the task plan or the motion plan?.” June 30, 2018. *RSS 2018 Workshop on Exhibition and Benchmarking of Task and Motion Planners*. Joint with Ross A. Knepper.
- “Exploiting Heterogeneity in Robot Teams Through a Formalism of Capabilities.” July 15, 2017. *RSS 2018 Workshop on Heterogeneity and Diversity for Resilience in Multi-Robot Systems*
- “Toward Contextual Grounding of Unfamiliar Gestures for Human-Robot Interaction.” May 30, 2017. *FG 2017: First International Workshop on Adaptive Shot Learning for Gesture Understanding and Production*
- “Recognizing Unfamiliar Gestures for Human-Robot Interaction through Zero-Shot Learning.” June 19th, 2016. *2nd Workshop on Model Learning for Human-Robot Communication, RSS 2016*

TEACHING
EXPERIENCE

- CS 4750** (*Foundations of Robotics*) *Cornell University*, Fall 2016 & Fall 2017
Graduate TA (syllabus creation, coding project creation and implementation, grading, office hours, occasional lecturing). Senior and graduate-level elective.
- CS 1110** (*Introduction to Computing Using Python*) *Cornell University*, Fall 2015
Head graduate TA (coordinating staff, giving review lectures, supervising lab sessions, grading, office hours). Introductory undergraduate CS course.
- ENG 1501** (*Introduction to Aerial Robotics*) *University of Virginia*, Fall 2014

Instructor. Designed and taught 1-credit special-topics undergraduate elective introducing core topics in robotics. Students built and programmed their own quadrotor robots and learned about basic kinematics, control, and perception.

CS 4610 (*Programming Languages*) *University of Virginia*, Spring 2015
Undergraduate TA. Senior-level elective.

CS 4710 (*Artificial Intelligence*) *University of Virginia*, Spring 2015
Undergraduate TA. Senior-level elective.

CS 4414 (*Operating Systems*) *University of Virginia*, Spring 2014
Undergraduate TA (office hours, assignment creation). Senior-level core course.

CS 2150 (*Program and Data Representation*) *University of Virginia*, (Fall 2013, Spring 2013, Fall 2014, Spring 2015). Undergraduate TA (office hours, lab supervision, grading). Sophomore-level core course.

OUTREACH **Mentor for Black in AI:** Advised mentee on Ph.D. application process. 2019–2020
Reviewer for Black in AI: Reviewed abstracts for BAI workshop. 2017–2019
Expanding Your Horizons: Workshop Organizer/Leader. Spring 2016, 2017, 2018
UVa HS Programming Contest: Organizer/volunteer. Spring 2014, 2015
UVa CS Education Week Ran intro CS workshop. Winter 2014, 2015

SERVICE **Reviewer:** ICRA (2016, 2019, 2020), IROS (2019), MRS (2019), RO-MAN (2016), RSS (2019), WAFR (2018), AURO, and SIMPAR (2018).
Departmental Service: Colloquium Czar (2016–2020), Administrative Colloquium Czar (2016–2019), Ph.D. Mentor Czar (2016–2018)

TECHNICAL SKILLS **Programming Languages:** C++, Python, Rust, C, CL, Haskell, OCaml, etc.
Technologies: Linux, ROS, OMPL, PyTorch, TensorFlow, Git, CUDA, etc.