

# Tucker Ryer Hermans

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## Education

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**Georgia Institute of Technology, School of Interactive Computing** *Atlanta, GA*

Ph.D. Robotics, May 2014

> Thesis: “Representing and Learning Affordance-Based Behaviors”

> Thesis Committee: Aaron Bobick (**advisor**), James M. Rehg (**co-advisor**), Henrik Christensen, Charles C. Kemp, Mike Stilman, and Dieter Fox (Univ. Washington),

**Georgia Institute of Technology, College of Computing** *Atlanta, GA*

M.S. Computer Science: Computational Perception and Robotics, Aug 2012

**Bowdoin College** *Brunswick, ME*

A.B. Magna Cum Laude in Computer Science (Hon.) and German, May 2009

**Humboldt Universität zu Berlin** *Berlin, Germany*

Coursework in Computer Science and German Literature, 2007–2008

## Experience

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**School of Computing, University of Utah** *July 2015–Present*

Assistant Professor

**Department of Mechanical Engineering, University of Utah** *January 2016–Present*

Adjunct Assistant Professor

**Technische Universität Darmstadt, Department of Computer Science** *April 2014–July 2015*

Postdoctoral Researcher

**Georgia Institute of Technology, School of Interactive Computing** *Aug 2009–April 2014*

Graduate Research Assistant

**Georgia Institute of Technology, School of Interactive Computing** *Fall 2011*

Graduate Teaching Assistant: CS 4495 Computer Vision

## Awards and Honors

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ICDL-Epirob CIS Student Travel Grant *2013*

Georgia Tech President’s Fellowship *2009–2013*

Phi Beta Kappa, Alpha of Maine *2009*

Maine State Police Colonel’s Award *2009*

## Lectures and Invited Talks

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**Invited Talk: “Visual and Tactile Learning for Robot Manipulation”** *January 2016*

Department of Mechanical Engineering, Brigham Young University

**Invited Talk: “Visual and Tactile Learning for Robot Manipulation”** *April 2015*

School of Computing, University of Utah

**Invited Talk: “Visual and Tactile Learning for Robot Manipulation”** *March 2015*

School of Computer Science, McGill University

**Invited Talk: “Visual and Tactile Learning for Robot Manipulation”** *February 2015*

Department of Computer Science, Drexel University

**Guest lecture: “Model Learning”** *November 2014*

Robot Learning (Lernende Roboter), Department of Computer Science, TU Darmstadt

**Invited talk: “Tactile Sensing for Object Manipulation in Clutter”** *September 2014*

Third Workshop on Robotics in Clutter, IROS 2014

## Academic Service

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**IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)** *2016*

Associate Editor

**School of Computing, University of Utah** *2016*

Colloquium Chair

**U.S. Army Medical Research and Materiel Command, Congressionally Directed Medical Research** *2016*

**Programs (CDMRP)**

Panel Reviewer

**Faculty Hiring Committee: Computer Vision, School of Computing, University of Utah** *2015-2016*

Committee Member

Graduate Admissions Committee, School of Computing, University of Utah  
Committee Member

2015-2016

Workshop on “Visual and Tactile Learning for Interaction” at Robotics: Science and Systems 2015 July 2015

Lead Organizer

Faculty Hiring Committee, School of Interactive Computing, Georgia Tech  
Student Committee Member

2012-2013

**Program Committee Member:**

ECCV Workshop on Affordances (2014), RSS Workshop on Affordances (2014), IROS Workshop on Cognitive Robotics and Systems (2013), RSS Workshop on Robots in Clutter (2013), ICRA Workshop on Interactive Perception (2013), RoboCup Symposium (2010, 2011)

**Reviewer:**

International Journal of Robotics Research, IEEE Transactions on Robotics, Autonomous Robots, IEEE Transactions on Cognitive and Developmental Systems, IROS, ICRA, Humanoids, Journal of Intelligent and Robotic Systems, NIPS 2014 Workshop: Autonomously Learning Robots, HRI: Workshops and Tutorials

**Students**

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**Advising**

> Qingkai Lu Ph.D. Computing: Robotics  
> Balakumar Sundarlingam Ph.D. Computing: Robotics

**Committee Member**

> Katie Popek Ph.D. Computing: Robotics  
> Ashley Guinan Ph.D. Computing: Robotics

**Graduated**

> Janine Hölscher TU Darmstadt, B.S. Informatik

**Publications**

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**Conference and Workshop Papers**

- > J. Hoelscher, J. Peters, and T. Hermans. “Evaluation of Tactile Feature Extraction for Interactive Object Recognition.” *IEEE-RAS International Conference on Humanoid Robotics (Humanoids)*, 2015.
- > H. van Hoof, T. Hermans, G. Neumann, and J. Peters. “Learning Robot In-Hand Manipulation with Tactile Features.” *IEEE-RAS International Conference on Humanoid Robotics (Humanoids)*, 2015.
- > F. Veiga, H. van Hoof, J. Peters, and T. Hermans. “Detecting Slip and Stabilizing Grip of Novel Objects with Tactile Sensing.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Hamburg, Germany, 2015.
- > T. Hermans, F. Li, J. M. Rehg, A. F. Bobick. “Learning Contact Locations for Pushing and Orienting Unknown Objects.” *IEEE-RAS International Conference on Humanoid Robotics (Humanoids)*, Atlanta, GA, USA, October 2013.
- > A. Ciptadi, T. Hermans, J. M. Rehg, “An In Depth View of Saliency.” *British Machine Vision Conference (BMVC)*, Bristol, United Kingdom, September 2013.
- > T. Hermans, F. Li, J. M. Rehg, A. F. Bobick. “Learning Stable Pushing Locations.” *IEEE International Conference on Developmental Learning and Epigenetic Robotics (ICDL-Epirob)*, Osaka, Japan, August 2013.
- > T. Hermans, J. M. Rehg, A. F. Bobick. “Decoupling Behavior, Perception, and Control for Autonomous Learning of Affordances.” *IEEE International Conference on Robotics and Automation (ICRA)*, Karlsruhe, Germany, May 2013.
- > T. Hermans, J. M. Rehg, A. F. Bobick. “Decoupling Behavior, Control, and Perception in Affordance-Based Manipulation.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS): Workshop on Cognitive Assistive Systems*, Vilamoura, Portugal, October 2012.
- > T. Hermans, J. M. Rehg, A. F. Bobick. “Guided Pushing for Object Singulation.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Vilamoura, Portugal, October 2012.
- > A. Cosgun, T. Hermans, V. Emeli, M. Stilman, “Push Planning for Object Placement on Cluttered Table Surfaces.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2011.
- > T. Hermans, J. M. Rehg, A. F. Bobick, “Affordance Prediction via Learned Object Attributes,” *ICRA Workshop on Semantic Perception, Mapping, and Exploration*, 2011.
- > H. Zhou, T. Hermans, A. V. Karandikar, J. M. Rehg, “Movie Genre Classification via Scene Categorization.” *ACM Multimedia*, Florence, Italy, November 2010.
- > H. Work, E. Chown, T. Hermans, J. Butterfield, M. McGranaghan, “Player Positioning in the Four-Legged League.” *RoboCup: Robot Soccer World Cup XII*. Suzhou, China, 2008.
- > H. Work, E. Chown, T. Hermans, J. Butterfield, “Robust Team-Play in Highly Uncertain Environments.” *International Joint Conference on Autonomous Agents and Multiagent Systems*. Estoril, Portugal, May 2008.

### Peer Reviewed Demonstrations

- › T. Hermans, F. Veiga, H. van Hoof, J. Hoelscher, J. Peters, “Demonstration: Learning for Tactile Manipulation.” *Neural Information Processing Systems (NIPS)*, Montreal, Canada, December 2014.

### Teaching

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- › CS 6370 / ME EN 6225 “Motion Planning” - Fall 2015, Fall 2016
- › CS 7939 / ME EN 7960 “Seminar in Robotics” - Fall 2015, Fall 2016
- › CS 6300 “Artificial Intelligence” - Spring 2016
- › CS 7930 “School of Computing Colloquium” - Spring 2016, Fall 2016