Tucker Ryer Hermans

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Education

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

Technische Universität Darmstadt, Department of Computer Science   *April 2014–Present*
Postdoctoral Researcher
› Member Intelligent Autonomous Systems Lab; Jan Peters, PI
› Team Leader for European Commission FP7 project: TACMAN
› Supervisor of two Ph.D. students, three master's students, and one bachelor's thesis

Georgia Institute of Technology, School of Interactive Computing   *Aug 2009–April 2014*
Graduate Research Assistant
› Conduct research on affordance perception and learning for robotic mobile manipulation
› Design and perform experiments on the PR2 and Pioneer P3DX robots
› Directed master's student research on visual servoing for mobile manipulation
› Directed undergraduate student research on robot perception of clutter

Georgia Institute of Technology, School of Interactive Computing   *Fall 2011*
Graduate Teaching Assistant: CS 4495 Computer Vision
› Co-authored syllabus and all assignments for CS 4495 Computer Vision with Prof. Aaron Bobick
› Authored and delivered lectures on segmentation and graph-cut algorithms
› Student evaluated TA effectiveness mean score of 4.4 and median score of 5.0 out of 5.0

Bowdoin College, Department of Computer Science   *Fall 2006–Summer 2009*
Undergraduate Researcher: RoboCup Standard Platform League (SPL)
› Wrote and designed core components of perception and behavior code
› Managed and directed team members for the Northern Bites
› RoboCup 2007: World Champion; RoboCup U.S. Open 2008: Champion; RoboCup 2008: Third Place; RoboCup 2009: Second Place

Bowdoin College, Department of German   *Fall 2008*
Teaching Assistant: German 203 Intermediate German 1
› Independently instruct language practice sessions for students in their second year of German study
› Responsible for designing lesson plans for language discussion sessions accompanying lectures
› Assist with principle course instruction

Awards and Honors

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*
Sarah and James Bowdoin Scholar: Dean's List	*2006, 2007*

Lectures and Invited Talks

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

Guest lecture: "Interactive Preception and 3D Object Tracking"   *October 2013*
CS/AE/ECE/ME 7785: Graduate Introduction to Robotics Research, Georgia Tech

Guest lectures: "Segmentation", "Graph Cuts", "Energy Minimization and Inference"   *Fall 2011, 2012, 2013*
CS 4495: Computer Vision, Georgia Tech

Guest lecture: "Segmentation and Video Synthesis"   *July 2012*
CS 4475: Computational Photography, Geogia Tech

Academic Service

Faculty Hiring Committee, School of Interactive Computing, Georgia Tech   *2012-2013*
Student Committee Member

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, Autonomous Robots, IROS, ICRA, Humanoids, Journal of Intelligent and Robotic Systems, NIPS 2014 Workshop: Autonomously Learning Robots, HRI: Workshops and Tutorials

Publications

Conference and Workshop Papers

› F. Veiga, H. van Hoof, J. Peters, and T. Hermans. "Detecting Slip and Stabilizing Grip of Novel Objects with Tactile Sensing." *Submitted: IEEE International Conference on Robotics and Automation (ICRA)* , Seattle, USA, 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, "Machine Learning for Tactile Manipulation." *Neural Information Processing Systems (NIPS)*, Montreal, Canada, December 2014.

Tech Reports

› T. Hermans, J. Strom, G. Slavov, J. Morrison, A. Lawrence, E. Krob, E. Chown, "Northern Bites 2009 Team Report." *Bowdoin College, Tech. Rep.*, 2009.

› E. Chown, J. Fishman, J. Strom, G. Slavov, T. Hermans, N. Dunn, A. Lawarence, J. Morrison, E. Krob, "Northern Bites 2008 Standard Platform Robot Team." *Bowdoin College, Tech. Rep.*, 2008.