Adam E. Leeper

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EDUCATION

Ph.D. Mechanical Engineering (Robotics), Stanford University, Advisor Ken Salisbury 2013
M.S. Mechanical Engineering, Stanford University, 3.97 GPA 2009
B.S. Engineering Physics, The University of Tulsa, 3.99 GPA 2007

EXPERIENCE

Senior Systems Engineer - hiDOF, Inc., South San Francisco, CA 2013
Technology transfer, exploration, and software development for robotics applications.

Research Intern - Willow Garage, Inc., Menlo Park, CA 2010 - 2013
Created systems, controllers, and user interfaces for teleoperated mobile manipulation.

Research Assistant - Salisbury Robotics Lab, Stanford, CA 2008 - 2013
Conducted research in algorithms for haptic rendering and robot control.
Led redesign of a magnetic sensor product to reduce cost and simplify assembly.

Consulting:

Motion Genesis, LLC - Developed visualization tools for multi-body systems. 2011-2013
Applied Materials, Inc.- Subcontracting consultant for robot motion visualization. 2012
Charm Labs - Dynamics and control. Confidential. 2012

TEACHING

Instructor, ME101 Dynamics, San Jose State University. 2011, 2012
Instructor, Programming and Robotics, EPGY Summer Institutes at Stanford. 2010

Course Assistant, ME331b - Dynamics and Simulation with Paul Mitiguy, Stanford. 2012
Course Assistant, CS277 - Haptics with Ken Salisbury, Stanford. 2011
Course Assistant, CS223a - Robotics with Oussama Khatib, Stanford. 2010
Course Assistant, ENGR15 - Dynamics with Paul Mitiguy, Stanford. 2009

SELECTED PUBLICATIONS

A. Leeper, S. Chan, and K. Salisbury. Point Clouds Can Be Represented as Implicit Surfaces for Constraint-Based Haptic Rendering. ICRA, May 2012, St. Paul, MN.

A. Leeper, S. Chan, K. Hsiao, M. Ciocarlie, K. Salisbury. Constraint-based Haptic Rendering for Teleoperated Robot Grasping. IEEE Haptics Symposium, March 2012, Vancouver, Canada.

A. Leeper, K. Hsiao, M. Ciocarlie, L. Takayama, D. Gossow. Strategies for Human-in-the-Loop Robotic Grasping. HRI, March 2012, Boston, MA.

A. Leeper, K. Hsiao, E. Chu, and K. Salisbury. Using Near-Field Stereo Vision for Robotic Grasping in Cluttered Environments. ISER, Dec. 2010, Delhi, India.

SKILLS

Strong expertise in robotics, dynamics, controls, and applied mathematics.

Computation: Comfortable in Linux and Windows environments. Software engineering (C++, Python) for robotics and simulation, with extensive use of version control and issue tracking. Proficiency in MATLAB for computation and data analysis. Experience with ROS, Qt, PCL, OpenGL, OpenCV.

Electronics: Circuit design/debugging, prototype PCB layout/fabrication, embedded systems.

Hardware: General machine shop rapid-prototyping skills, and proficient in CAD tools (Solidworks).

Languages: English (native), Spanish (fluent), French (proficient reading and writing).

Other: Private pilot, recording engineer, bassist.