Adam Eric Leeper

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EXPERIENCE

Google, Mountain View, CA - *Engineering Manager* — **2018 - 2020**
Google, Mountain View, CA - *Senior Software Engineer / Technical Lead Manager* — **2016 - 2018**
Google, Mountain View, CA - *Software Engineer* — **2014 - 2016**
- Led team designing ARCore public API, system architecture, and sensor management (C++, Java).
- Managed 12 engineers; recruited and hired 10+ software engineers.
- Developed algorithms and applications for visual-inertial SLAM and sparse mapping in Project Tango.

hiDOF, South San Francisco, CA - *Senior Systems Engineer* — **2013 - 2014**
- Developed algorithms in C++ for visual monocular SLAM and wheeled vehicle motion planning.

Willow Garage, Menlo Park, CA - *Research Intern* — **2010 - 2013**
- Developed robotic systems, conducted user experiments, and published papers in major robotics conferences.

Salisbury Robotics Lab, Stanford, CA - *Graduate Researcher* — **2008 - 2013**
- Developed new algorithms and sensors for haptic rendering and robot control.
- Developed web-based visualization software for multi-body systems.

SKILLS

Applied Math - Expert in dynamics, kinematics, and 3D geometry as applied to robotics, simulation, and graphics.
Software Languages - C++ (12 years) and Android Java (6 years) in large codebases (100+ engineers) featuring multi-threaded, event-driven, and multi-process designs. Also proficient in Python, Javascript, MATLAB, SQL.
Software Libraries - Expert knowledge of ROS. Experience with three.js, OpenGL, OpenCV, Eigen, Qt, PCL.
Development Environments - Linux (expert), Mac, Windows, using version control (e.g. git) and issue tracking.
Electronics - Circuit design/debugging; some experience with PCB layout/fabrication and embedded systems.
Hardware - General machine shop rapid-prototyping skills, and proficient in CAD tools (Solidworks).
Languages - English (native), Spanish (fluent), French (proficient).
Other - Private pilot, recording engineer, bassist, drummer.

EDUCATION

Ph.D. Mechanical Engineering, Stanford University, 3.94 GPA — **2013**
M.S. Mechanical Engineering, Stanford University, 3.97 GPA — **2009**
B.S. Engineering Physics, The University of Tulsa, 3.99 GPA — **2007**

TEACHING

Instructor: COMP 2140, Programming I, Tennessee State University, 50 students. — **2020**
Instructor: ENGR 105, Controls, Stanford University, 70 students. — **2015, 2016**
Instructor: ENGR 14, Statics, Stanford University, 77 students. — **2014**
Instructor: ME 101, Dynamics, San Jose State University, 50 students. — **2011, 2012, 2013**
Instructor: Programming and Robotics, Stanford EPGY Summer Institutes, 50 students. — **2010**

SELECTED PUBLICATIONS

A. Leeper, K. Hsiao, M. Ciocarlie, I. Sucan, and K. Salisbury. Methods for Collision-Free Arm Teleoperation in Clutter Using Constraints from 3D Sensor Data. 2013 International Conference on Humanoid Robots. October, 2013. Atlanta, Georgia.

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