

# 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. Sukan, 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.