

EXPERIENCE

- Applied Intuition, Sunnyvale, CA - Staff Engineer, Autonomy** **2025 - 2026**
Applied Intuition, Sunnyvale, CA - Senior Manager, Simulation Products **2021 - 2025**
- Optimized build and dev workflows for autonomy org. Developed robotics demos.
 - Developed full-stack engineering tools using React, C++, and Python.
 - Grew revenue of flagship autonomous vehicle simulation products from \$XM to \$XXM.
 - Managed org of 70 across 8 teams; recruited 25+ into my teams and 100+ into the broader company.
- Google, Mountain View, CA - Engineering Manager** **2016 - 2020**
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**
Salisbury Robotics Lab, Stanford, CA - Graduate Researcher **2008 - 2013**
- Developed robotic systems, conducted user experiments, and published papers in major robotics conferences.

SKILLS

- Applied Math** - Expert in dynamics, kinematics, and 3D geometry as applied to robotics, simulation, and graphics.
Software Languages - C++ (18 years), Python (10 years), Typescript w/ React (6 years), Java (6 years) in large codebases (100+ engineers) featuring multi-threaded, event-driven, and multi-process designs.
Software Tools - Claude, Docker, ROS 1, ROS 2, SQL, MATLAB, three.js, OpenGL, OpenCV, Eigen, Qt, PCL.
Dev 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).
Other - English (native), Spanish (fluent), French (writing). 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. Oct, 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.