

Objective

Seeking a summer 2016 internship in robotics or related field including computer vision and machine learning.

Education

University of Michigan

M.S. in Robotics

GPA: 3.81

Ann Arbor, MI

Expected Graduation May 2017

University of California - Los Angeles (UCLA)

B.S. in Mechanical Engineering, Technical Breadth in Electrical Engineering

GPA: 3.48

Los Angeles, CA

June 2011

Work Experience

Motorola Mobility

Senior Mechanical Engineer

Chicago, IL

June 2012 – August 2015

- Product portfolio – Moto X smartphones (1st and 2nd generation) and Moto 360 smartwatch (2nd generation)
- Product Development – Developed architecture to increase OLED display drop performance. Owned mechanical design and manufacturing for Power and GPS subsystems on Moto 360 smartwatch. Established new mechanical architecture, manufacturing techniques, and material sourcing channels for leather smartphone parts.
- Manufacturing – Stamping, injection molding, metal and composite forming, machining, laser direct structuring. On site interface with China base suppliers to root cause manufacturing issues, drive schedules, and support ramp up of production parts. Applied Six-Sigma principles to decrease defective parts below 0.001%.

Teledyne Relays

Intern and Engineer I

Hawthorne, CA

Feb. 2010 – May 2012

- Product Development – Mechanical lead for seismic sensor used to discover oil deposits in the ocean floor. Designed parts to resonate to certain frequencies.

Project Experience

Computer Vision: Fuse Camera and Inertial Data to Provide Location

Ann Arbor, MI

Research Assistant, Advised by Professor Matthew Johnson-Roberson

Winter 2016

- Accelerometers mounted on dolphins provide constant but imprecise location data while stationary cameras can only capture the dolphin's location when it surfaces. We fuse the two measurements using Kalman Filters and probabilistic state estimation to determine the actual swimming path of the subject. Working with C++, ROS, OpenCV, and GigE cameras.

Computer Vision: 3D Reconstruction of Environment from 2D Images

Ann Arbor, MI

Programmer

Fall 2015

- Using recorded video from a cell phone, our team reconstructed the scene as a 3D point cloud along with the estimated camera path. Utilized feature detection algorithms and Structure from Motion process.

Robotic Systems Laboratory

Ann Arbor, MI

Programmer and Lead Mechanical Engineer

Fall 2015

- Programmed a rover to navigate through a maze using the A* algorithm and estimate its position using Simultaneous Localization and Mapping (SLAM). Programmed a quadcopter/drone to autonomously fly to a series of waypoints and perch on rod using a robotic grasper I designed.

UCLA Physics Department

Los Angeles, CA

Research Assistant

Spring 2011

- Controls Research – Designed digital PID controls for levitating metallic objects using low cost, open source hardware (Arduino Microcontroller) in combination with Matlab and Simulink for rapid prototyping.

Coursework (* = in progress)

- | | | |
|-------------------------------------|----------------------|-------------------------|
| ▪ Computer Vision | ▪ Dynamics | ▪ Controls and Feedback |
| ▪ State Estimation / Localization * | ▪ Machine Learning * | |

Skills

- Professional CAD experience in Pro-E (Creo), Unigraphics NX, and ANSYS (simulation)
- C/C++, Python, Matlab, OpenCV, ROS
- Six Sigma Greenbelt
- United States Citizen

Awards

- 1st place in Motorola's Innovation Forum – Bioacoustics for gesture recognition