KEVIN CHOI

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Objective
Seeking a summer 2016 internship in robotics or related field including computer vision and mobile robot localization.

Education

University of Michigan   **Ann Arbor, MI**
M.S. in Robotics   *Expected Graduation May 2017*
GPA: 3.81

University of California - Los Angeles (UCLA)   **Los Angeles, CA**
B.S. in Mechanical Engineering, Technical Breadth in Electrical Engineering   *June 2011*
GPA: 3.48

Work Experience

Motorola Mobility   **Chicago, IL**
Senior Mechanical Engineer   *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. Responsible for 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   **Hawthorne, CA**
Intern and Engineer I   *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 (EKF, UKF, etc)*
- Machine Learning *

Skills
- Professional CAD experience in Pro-E (Creo), Unigraphics NX, and ANSYS (simulation)
- C/C++, Python, Matlab, OpenCV, ROS (Code samples: https://github.com/kev1nnsays)
- Six Sigma Greenbelt
- United States Citizen

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