KEVIN CHOI

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Objective
Robotics engineer with professional experience in hardware and software development looking for a full-time position.

Education

University of Michigan   **Ann Arbor, MI**
M.S. in Robotics   *Expected Graduation Dec 2016*
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

5D Robotics   **San Diego, CA**
Robotics Engineering Intern   *May 2016 – August 2016*

- Computer Vision Object Recognition – Enabled an autonomous forklift to identify payload and pose of slots for insertion (machine vision, OpenCV, and ROS); worked with 2D filtering and 3D point clouds
- Visual Odometry – Configured visual odometry algorithms to allow quadcopter to estimate its pose using on board cameras
- Worked extensively with Robotics Operating System (ROS) in simulation and real-time robots; worked with several sensors including machine vision cameras, LIDAR, and Ultra-wide-band radios

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. Owned mechanical design and manufacturing for Power and GPS subsystems on Moto 360 smartwatch.
- 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

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.

Coursework (* = in progress)

- Computer Vision
- Embedded Systems*
- Controls and Feedback
- State Estimation / Localization
- Machine Learning
- Artificial Intelligence*

Skills

- Professional CAD experience (Creo, NX), C/C++, Python, Matlab, Six Sigma Greenbelt
- United States Citizen