KEVIN CHOI

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OBJECTIVE

Robotics engineer seeking a full-time position in designing and building the next generation of autonomous space robots.

SKILLS HIGHLIGHTS

- Fluent in C/C++, Python, Matlab
- Linux proficiency
- OpenCV, Point Cloud Library, ROS
- Embedded Systems
- Computer Vision
- Real-time estimation techniques (SLAM)
- Machine Learning and A.I
- Theoretical and practical knowledge of robotic systems
- CAD (Creo, Pro-E, NX)
- Six Sigma Greenbelt

WORK EXPERIENCE

5D Robotics San Diego, CA — 5/2016 – 8/2016 (4 Months)
Robotics Engineering Intern

- Computer Vision Object Recognition – Led perception algorithms development for autonomous forklift, enabling it to recognize and determine the pose of objects by applying SIFT keypoint descriptors to a depth image
- Single Camera Navigation (Visual SLAM) – Configured visual odometry algorithms allowing a quadcopter or ground vehicle to simultaneously estimate its pose and create a 3D map of the environment 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 — 6/2012 – 8/2015 (3 Years)
Senior Mechanical Engineer

- Product Development – Extensive experience with full product lifecycles from CAD design to prototype iteration to manufacturing ramp up. Developed shock absorbing subassembly that increased OLED display drop performance on smartphones and novel antenna structure boosting GPS reception on smartwatches
- Manufacturing – Traveled internationally (China, Taiwan) to root cause manufacturing issues, drive schedules, and apply Six-Sigma principles to decrease defective parts below 0.001%.

Teledyne Relays Hawthorne, CA — 2/2010 – 5/2012 (2 Years)
Intern and Engineer I

- Product Development – Mechanical lead for seismic sensor used to discover oil deposits in the ocean floor

PROJECT EXPERIENCE

Camera Object Tracking and Inertial Data Fusion — Winter 2016
Research Assistant, Advised by Professor Matthew Johnson-Roberson

- Tracked targets in a video using computer vision algorithms (optical flow, keypoint descriptors) and further improved estimations by fusing camera and accelerometer data using the Kalman filter.

Structure from Motion Using Project Camera Model — Fall 2015
Programmer

- Reconstructed 3D model of an object or scene from a series of images or video.

Robotic Systems Laboratory — Fall 2015
Programmer and Lead Mechanical Engineer

- 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.

EDUCATION

M.S. Robotics, University of Michigan GPA: 3.81 — Expected Graduation Dec 2016

B.S. Mechanical Engineering, UCLA GPA: 3.48 — June 2011