Rahul Rawat

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Technical Skills

Languages: C, C++, Python, MATLAB, Bash
Frameworks: ROS, OpenCV
Software: Linux, Gazebo, LabVIEW, AutoCAD, Eagle, Simulink
Hardware: ARM Cortex, Atmel, PIC, Arduino, Raspberry Pi, FPGA

Education

University of Waterloo
Bachelor of Applied Sciences
Honours Mechatronics Engineering
2012 - 2017

Work Experience

iPhone Product Operations Intern | Apple Inc. | May – August 2016
- Led development and prototyping of reprogrammable metrology tool reducing lead time by 16 weeks and reducing cost by 91.8% per unit in comparison to previously used measurement equipment
- Led development and management of database containing assembly process data across multiple manufacturing sites

Robotics Application Engineer & Software Developer | Clearpath Robotics Inc. | September – December 2015
- Developed Open Source Debian Packages and hardware to use KinectOne on the PR2 Humanoid Robots
- Proposed and implemented new concepts and technical designs for future self-driving vehicles and autonomous solutions
- Created dynamic robot analysis tool using iPython for estimation of performance and physical statistics

Controls and Robotics Engineer | Magna International Inc. | January – April 2014
- Developed embedded systems and user interfaces on Windows CE to monitor data from vision systems
- Created robotic communication protocols for data transfer to central databases using PLC code increasing efficiency by 40%
- Performed prototyping of smart drilling system to eliminate manufacturing defects increasing reliability from 84 to 99%

System Integration Engineer | Wilco Machine & Mold Inc. | May – August 2013
- Automated sealing and packaging machinery using PLCs and Ladder Diagrams for food manufacturing sites

Software Tester | CryptoMill Technologies Inc. | September – December 2013
- Designed and Implemented new test cases to assess software functionality

IT Intern | Purolator Inc. | January – April 2013
- Created and managed multiple databases to automate corporate data

Projects and Collaborations

See more at rahulrawat.net/projects.html

Nuclear Power Plant Inspection Robot | Capstone Project | Autonomy Lead
A mobile robot capable of navigating high radiation zones and autonomously inspect pipe corrosion levels in nuclear power plants
- Developed ROS nodes subscribing to LIDAR data and creating a virtual safety zone around the robot
- Developed virtual robot sensor system on Gazebo Sim tool to allow for pre-assembly software development

Mars Rover Robotics Team | Student Design Team | Team Lead
- Developed all terrain drive/steering system and controls for precision robotic manipulators
- Developed real time electrical safety system and housed on custom build PCB using Eagle

Home Security Robot | Hack Princeton | devpost.com/software/icubot
Winner of Best Microsoft Hack
- Developed robotics framework for home intrusion robot powered by a KinectOne, Windows laptop and Raspberry Pi robot

Razbot2 | Open Source Platform | github.com/razbot2
Open source platform running ROS capable of connecting to Wi-Fi and hosts a website displaying live camera feed
- Developed complete Open Source Robot for newcomers to learn robotics

Interests

- Robotics, Machine Learning, Contributing to Open Source, Electronics, Weightlifting, A Capella