Jasdeep Dhillon

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Work Experience

Research Assistant May 2017-Present
University of Waterloo

- Assembly and testing of Spatial Atomic Layer Deposition (SALD) system
- Redesign of reactor stand in Solidworks and machining of stand
- Designing thermoelectric cooling for the reactor stand

R&D Engineer September 2015 - December 2015
Magna International

- Designed a PLC to monitor pressure and temperature data of paint booths
- Researched air balancing paint booths and controlling paint trajectory solutions
- Researched the relationship between dirt and static charges on car parts

Automation Developer May 2014 - August 2014
Citigroup

- Programmed an automation tool to reduce time spent on Sanity testing by 60%
- Decreased computation time by incorporating multithreading
- Implemented JMS API to communicate with databases using SQL

Software and Hardware

Assembly Language
Microprocessor and Interfacing
FPGA and VHDL
PLC and PLC hardware
AutoCAD and Unigraphics NX
SolidWorks
Matlab and Simulink
C and C++
Java
PSIM
Labview
Keil MCB1700 Evaluation Boards
Pic-Axe Programming
RobotC and Logicator
Altera Cyclone II
Keil RTX RTOS
3D Printer and Milling Machine
Band saw and Drill Press
Soldering
EagleCad

Projects

Autofuel (capstone project – in progress)
- Designing and constructing a Cartesian robot to automate the vehicle refuelling process
- Responsible for mechanical and electrical assembly, SolidWork design and machining

Search and Recovery Robot (University)
- Designed an automated vehicle to traverse and locate a base in a defined course
- Machined modifications to the enclosure and designed parts in SolidWorks
- Calculated motor torque requirements and proof of concept calculations

Light Painting Robot (University)
- Programmed a Fanuc robot to recreate a user's path to produce a light painting

Line Following Robot (University)
- Designed circuits with various actuators and sensors
- Programmed to follow a path

Bicycle Gloves (Personal – in progress)
- Gloves that provide direction to a cyclist through haptic feedback

Education

Candidate for Bachelor of Applied Science, *Mechatronics Engineering, University of Waterloo, Sept 2012 - Present*

Relevant Courses
- Numerical Methods
- Linear Systems & Signals
- Microprocessors and Digital Logic
- Digital Controls
- Computer Structures and Real Time Systems
- Actuators and Power Electronics
- Microprocessor Systems and Interfacing
- Power Electronics and Motor drives
- Automatic Control Systems
- Sensors and Instrumentation
- Robot Manipulators
- Electromechanical Design

Interests

Design | IoT | Technology | Robots | Badminton | Hockey | Biking | Anime | Gaming | Drawing | Soccer | Physics | Music