

Jasdeep Dhillon

Mechatronics Engineer

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Work Experience

R&D Engineer
Magna International

September 2015 - December 2015

- Design 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 parts

Consultant
Accsys Diagnostics

February 2015 - April 2015

- Programmed an app to communicate with the raspberry pi
- Learnt to setup server on tablet and client on host for port forwarding
- Consulted and provided feedback and ideas for hardware

Automation Developer
Citigroup

May 2014 - August 2014

- 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

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

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

Education

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

Relevant Courses

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

Interests

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