

**Gurshan Deol**  
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## Skills

**Languages:** C/C++, Javascript/Jquery, Java, MATLAB, VB.NET, LaTeX

**Software:** SolidWorks, AutoCAD, Google Sketchup, Adobe CS6, Microsoft Office, Archestra IDE

**Automation and Control:** Experience with programmable logic controls, ladder logic, managing PLC tags and designing PLC UI interfaces

**Web Design:** Designed and managed multiple websites for personal use, past employers and currently for UW MCA

**Miscellaneous:** Material testing experience in a lab environment and excellent at troubleshooting & debugging

**Technical:** Soldering, Woodworking, machine operation, GD&T, breadboard prototyping

**Interpersonal:** Proven teamwork and leadership ability shown through initiative taken in various organizations

## Work Experience

### VASPAC (2014)

Hamilton, ON

*SCADA HMI Design*

*Jan 2015 - April 2015*

- Part of a team designing the HMI for a standby generator at Bruce Power
- Designed hundreds of graphics for use in the HMI with accordance to the design standards guidelines
- Wrote scripts in VB.NET and a proprietary Wonderware scripting language to animate graphics, perform calculations and navigate through the different screens of the HMI
- Simulated a PLC environment and managed thousands of tags using MatrikonOPC to test and modify the HMI
- Deconstructed the previous system built in RSVIEW 32 to determine changes that needed to be made using newer features

### Red Merle, Ltd.

Burlington, ON

*Design Intern*

*June. 2015 - Sept. 2015*

- Designed interactive forms for web pages using Adobe Indesign
- Authored news blogs discussing professional careers in different industries, published through Weebly and Wordpress CMS
- Designed web pages for contact information and navigation using HTML5/CSS3/Javascript/JQuery
- Met with professionals in various careers to research career options for recent high school graduates and current high school students

### Walmart Canada

Burlington, ON

*Sales Associate*

*Nov. 2010 - July. 2011*

- Assisted customers with technical issues in the electronics department

## Education

### University of Waterloo

Waterloo, ON

*Bachelor of Applied science (mechanical engineering)*

*2013-2018*

- Planned option in Biomechanics
- Gained experience in technical writing, use of machine tools and hand tools, programming in various languages and using equipment such as digital multimeters, Rockwell hardness testers and oscilloscopes

## Organizations

### Hydroponics Team

University of Waterloo

*Jan 2014 - present*

- Part of a team designing Hydroponic systems for potential community use at the university of Waterloo
- Designed and created a buoyant platform for the germinated lettuce plants to grow in, required trigonometric calculations to determine optimal spacing and other calculations to determine the dimensions of the raft and their anchoring system
- Currently designing a waterproof case for the sensor equipment and an arduino leonardo using SolidWORKS
- Helping design a system of digital and analog sensors to measure different properties of the aquaponics system. This information will then be sent to a server for calculations and display on our webpage

### Biomechatronics Club

University of Waterloo

*May. 2015 - Present*

- Currently designing a pneumatic actuator powered exoskeleton glove along with a MYO armband to increase a users grip strength.
- The MYO EMG Data will be analyzed to determine if the user is making certain hand gestures which will then signal the actuators to strengthen the hand gesture, such as unscrewing a lid
- Constructed artificial muscle fiber composed of coiled fishing line that contracts in response to applied heat

### Mechanical Contractors Association

University of Waterloo

*Web Developer*

*May. 2015 - Present*

- Managing web content for UW MCA and updating the current website
- Using a VPN to access the SMB servers located on campus

### Engineering Society

University of Waterloo

*Class Representative*

*Sept. 2014 - May. 2015*

- Helped make students voices heard and represented my cohort within the larger Engineering Community
- Volunteered during various Engineering Society events and charities

## Interests/Projects

**Hackathons** Previously won a sponsor prize from Estimote for my teams submission to DeltaHacks 2014. We created a prototype for a hands free networking device that would allow users to exchange customized personal information with a handshake The device was worn on the wrist and used a combination of BLE and accelerometer data to transfer data between users mobile phones

**Hobby electronics** I enjoy disassembling and testing electrical components (stepper motors, DC motors, speakers) from used electronics such as old printers and flatbed scanners. I am Currently repurposing two inkjet printers and a CD-R drive to work as a laser etcher, the inkjet head assemblies will work as an X-Y axis while the laser from the drive will be used to etch.