Vishal Patel

Mechatronics Engineering, University of Waterloo

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vishalp5.github.io

Skills

- **Mechanical:** AutoCAD, SolidWorks, Solid Edge, GD&T
- **Electrical:** DMM, Oscilloscope, Signal Generator, Soldering
- **Software:** C, C++, VBA, Python, Java, MATLAB, VHDL, Assembly
- Experienced in **3D Printing,** laser cutting, and using machine shop tools
- Working knowledge of **Lean Six Sigma** principles and tools such as Plan-Do-Check-Act (PDCA), Root Cause Analysis (5 Whys), and Failure Mode Effects Analysis (FMEA)

Experience

- Quality Engineering Co-op – *Faurecia Emissions Control Technologies* Jan. 2018 – Apr. 2018
  - Investigated supplier quality issues and returned defective parts to suppliers
  - Improved the supplier quality investigation process by 23% using Excel and VBA to automate steps
  - Created a KPI tracker using Excel which generates statistics based on the raw data
  - Reviewed PPAPs (Production Part Approval Process) to ensure compliance to company requirements
  - Performed dimensional studies using calipers and gauges to determine root cause of weld defects
- Manufacturing Engineering Co-op – *Apollo Health and Beauty Care* Jun. 2017 – Aug. 2017
  - Designed a pipe cleaning tool using AutoCAD to clean pipes before welding is performed
  - Researched and purchased new equipment to improve the efficiency of production lines
  - Performed preventive maintenance on filling machines and case sealers through disassembly and cleaning to optimize performance and bring machine back towards base condition
  - Identified production equipment with asset tags and updated asset management system to improve efficiency of maintenance and continuous improvement initiatives

Projects (vishalp5.github.io/projects)

- Bluetooth Car – *Independent Project* Jan. 2018 – Mar. 2018
  - Programmed an Arduino to receive Bluetooth commands using the HC-05 module and control a motor driver accordingly to drive the car
- 3D Printed Cell Phone Case – *Independent Project* Jan. 2017
  - Measured an existing part using calipers and designed a cell phone case replacement using SolidWorks, which was successfully 3D printed using PC-ABS
- Autonomous Snow Plow – *Term Project* Oct. 2016 – Nov. 2016
  - Programmed a snow plow using RobotC that autonomously navigates using multiple sensors and clears roads and driveways using a 3D printed mechanism

Education

- Candidate for Bachelor of Applied Science, Mechatronics Engineering – *University of Waterloo* Sept. 2016 – Present
  - Relevant Courses: Sensors and Instrumentation, Introduction to Computer Structures and Real-Time Systems, Introduction to Microprocessors and Digital Logic, Algorithms and Data Structures

Activities and Interests

- Automotive, Robotics, 3D Printing, Biking, Basketball