Vishalkumar Patel

Mechatronics Engineering, University of Waterloo

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Summary of Qualifications

- 4 years of **AutoCAD** and technical drawing experience from academic training and work
  - Designed and built a zip line racer as part of a team and placed first in a tournament
- 2 years of **Solid Edge** experience and 1 year of **SolidWorks** experience from school and personal projects
- 1 year of programming experience in **C++** and **RobotC** developed through course assignments, personal projects, and autonomous snow plow project
- Experienced in **3D Printing,** Geometric Dimensioning and Tolerancing, and using machine shop tools
- Basic understanding of Lean Six Sigma and TPM principles and lean tools such as Plan-Do-Check-Act (PDCA), Root Cause Analysis, Failure Mode Effects Analysis (FMEA), Kaizen, and A3 Project Summary

Experience

- Engineering Co-op – *Apollo Health and Beauty Care Inc.* Jun. 2017 – Aug. 2017
  - Labelled production equipment with asset numbers and updated asset management system to improve efficiency of preventive maintenance program
  - Designed a pipe cleaning tool using AutoCAD to clean pipes before hot work (welding) is performed
  - Performed preventive maintenance on filling machines and case sealers to optimize performance and bring the machine back towards base condition
  - Collected samples from a dilution system to validate product and machine performance
- Minister of Finance – *Student Council – Bramalea S.S.* Sept. 2015 – June 2016
  - Allocated funds to school clubs based on previous allocations and spending history to ensure fair distribution of resources
  - Submitted cheque requisition forms to reimburse council members for their purchases
  - Collaborated with the council to plan, promote, and run events and fundraisers

Projects

- 3D Printed Cell Phone Case – *Independent Project* Jan. 2017
  - Measured an existing part using manual calipers and designed a cell phone case replacement using SolidWorks, which was successfully 3D printed
- Obstacle Avoiding Robot – *Independent Project* Dec. 2016
  - Programmed and assembled a robot using an Arduino Uno that detects objects, prevents collisions, and navigates using an ultrasonic sensor
- Autonomous Snow Plow – *Term Project* Oct. 2016 – Nov. 2016
  - Designed a snow plow that autonomously navigates using multiple sensors and clears roads and driveways using a 3D printed mechanism (programmed using RobotC)

Education

- Candidate for Bachelor of Applied Science, Mechatronics Engineering – *University of Waterloo* Sept. 2016 – Present
  - Relevant Courses: Introduction to Microprocessors and Digital Logic, Engineering Graphics and Design (AutoCAD, SolidWorks), Structure and Properties of Materials, Algorithms and Data Structures (C++)

Activities and Interests

- Autonomous cars, Cycling, Basketball