Taha **Malik**

3B Mechanical Engineering

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Skills Overview

Mechanical	Hardware	Manufacturing
GD&T, Drafting, Tolerance Analysis, SolidWorks, Inventor, AutoCAD, FEA, CATIA, Simplify3D	Arduino, Sensors & Instrumentation, Motors (specialty in BLDC), Soldering, PCB, Rapid Prototyping, Power Tools, CAN	DOE, RCA, Kaizen, APQP, Six Sigma, FMEA, SPC, Lean Manufacturing, 5S, PPAP

Experience

Bionik Labs, Toronto ON – *Hardware Engineer* 2019 (Sept-Dec)

- Developed and executed motor test plan to grade BLDC motors based on performance in saturation current, temperature, cogging torque, inrush current, efficiency, and other criteria under 60601
- Designed outrunner motor adapters and completed FEA in SolidWorks to ensure parts passed under the load condition as well as created drawings and communicated with suppliers to ensure accurate parts
- Programmed accelerometer to output Fourier transform to categorize motor's dominant frequency
- Built mobile electro-mechanical system that simulates therapy robot for design evaluation and testing

Skill Development: Product Design, Design of Jigs/Fixtures, CAD Modelling, Medical Device Standards

Tesla Motors, Fremont CA – *Quality Engineer* 2019 (Jan-Apr)

- Completed Root Cause Analysis to rectify quality issues on Model 3 and used PowerApps to introduce alert system improving cycle times and throughput rates by 25%
- Designed and fabricated sealer application attachments to improve sealer quality on all Tesla vehicles saving $11,000 annually
- Eliminated all oil defects by following DOE principles and performing FTIR testing to identify and remove defect source from paint booths
- Created Java program allowing operators to input defects and championed cross-functional teams to drive Continuous Improvements
- Implemented Kaizen methodologies to improve sub-assembly process and executed lean tools to determine corrective actions on quality issues for Model 3, S, X & Y

Skill Development: Problem Solving, Manufacturing Fundamentals, Mechanical Enclosures

Mitchell Plastics, Waterloo ON – *Project Engineer* 2018 (May-Aug)

- Managed injection moulding process for Toyota Rav4 interior automotive parts by training workers, preparing materials, designing packaging, and validating assembly procedures
- Identified and eliminated quality issues by creating and presenting CAD solutions to tool shops for die alterations
- Streamlined machine trial and warehouse space management process by automating program summary using VBA allowing 50% more part storage
- Developed quality plans to test non-conformances in supplier parts and communicated/resolved SCAR issues

Skill Development: Project Management, Product Launch, Plastic Manufacturing, Supplier Management

Projects

Electric Bike Conversion 2018 (July)

- Used microcontroller, throttle, DC motor, and e-brakes to convert regular bike to electric
- Mounted custom dual freewheel system allowing independent pedal and motor motion using 3D printed parts
- Soldered all electrical connections and wrote custom code to operate bike

3D Printer Assembly 2018 (Apr)

- Created functional 3D printer from scratch using online and text resources with accuracy of ±0.1mm
- Implemented automatic endstop system allowing for faster and more accurate alignment
- Modified community source code to work with custom printer and electrical components

Android App Development 2017 (Sept)

- Used object-oriented concepts to develop android applications (Java)
- Created fitness app to suggest workouts, track user progress, read/write to disk, and provide feedback to user
- Created simple world exploring app with use of buttons, action commands, dropdown menus, and images

Education

University of Waterloo, Waterloo ON — Mechanical Engineering w/ Biomechanics Option

Candidate for Bachelor of Applied Science, 2021