Taha Malik

Mechanical Engineering Graduate

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WORK EXPERIENCE

Able Innovations June - Sept 2020
Product Development Intern

- Completed detailed product design of primary drivetrain for automated patient transfer device
- Developed open differential geartrain with linear compliance to create variable rack & drive pinion system
- Improved manufacturability by reducing fasteners, developing modular assemblies, and designed for effective joining
- Followed GD&T principles to develop engineering drawings

Skill Development: Product Design, CAD Modelling, DFMA

Bionik Laboratories Sept - Dec 2019
Hardware Engineering Intern

- Created electro-mechanical prototype of neurorehabilitation robot used in design evaluation and testing
- Designed motor components, conducted FEA in SolidWorks, and communicated with suppliers to ensure accurate parts
- Developed test plan to grade BLDC motors and classify based on performance under medical grade safety standards (ISO 13485)

Skill Development: Hardware Debugging, Physical Prototyping

Tesla Motors Jan - Apr 2019
Quality Engineering Intern

- Completed Root Cause Analysis to rectify quality issues on all vehicles
- Introduced defect tracking app to gain visibility on throughput rate
- Used Continous Improvement principles to decrease cycle times by 25%
- Eliminated oil defects by performing FTIR tests to identify source of issues
- Designed and fabricated sealer quality tools saving $11,000 annually

Skill Development: Problem Solving, Manufacturing Fundamentals

EDUCATION

University of Waterloo Sept 2016 - Apr 2021
Mechanical Engineering, Option in Biomechanics

Bachelor of Applied Science
Relevant Courses
- ME 322/423 (Mechanical Design 1 & 2)
- ME 559 (Finite Element Methods)
- ME 555 (Computer Aided Design)
- ME 598 (Engineering Biomechanics)
- SYDE 548 (User Centred Design Methods)
- ME 340 (Manufacturing Processes)

SKILLS

Mechanical
Inventor, SolidWorks, Catia, AutoCAD, HyperWorks, KeyShot, DFM/DFA, FEA, Tolerance Analysis, GD&T, Drafting

Hardware
Arduino, Motors, Soldering, Rapid Prototyping, Sensors & Instrumentation, Machine/Power Tools, CAN, Serial

Manufacturing
DOE, RCA, Kaizen, APQP, FMEA, Six Sigma, SPC, 5S, PPAP, Lean Mfg

Software
Java, VBA, C++, MATLAB, LaTeX, PowerApps, Android Studio, RobotC, HTML/CSS

PROJECTS

Lower Limb Exoskeleton
- Provides walking assistance to users with Incomplete Spincal Cord Injury
- Uses sensors to determine gait position and provide torque from actuator
- Complies with regulatory standard 890.3480 and safety standard ISO 13482
- Winner of Norman Esch, Sedra Design, CPS, and JM Mech Eng in Medicine Awards

Rear Cradle Mass Optimization
- Evaluated design of hybrid electric vehicle EDU mount through FEA in HyperWorks
- Eliminated areas with high stresses
- Created drawings for fabrication shop

INTERESTS

Environmentally Sustainable Technologies, Medical Devices, Product Design and Research, Basketball, Fitness, Photography, Reading, Woodworking, UWAFT (UW Alternative Fuels Team)