Mirabel Ehirim

Engineer-in-Training

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SKILL SUMMARY

Microsoft Office Suite | SolidWorks | 3D Printing & Prototyping | Technical Drawing Interpretation | Finite Element Analysis | Project Management | Project Coordination | Technical Writing | Data Analysis

PROFILE

Experienced in engineering analysis, 3D design modeling and physical prototyping

Experienced in product development and manufacturing techniques - 3D Printing, Lathe, Mill, Drill Press, Water Jet Experienced in performing routine

engineering investigations - material testing, calculations Proficient use of Microsoft Office Suite, Word processing and keyboard- intensive applications

Effective communication and collaborative skills - technical documentation, technical presentations

Effective leadership, organizational, time and project management skills

Proven strong work ethic and capable of working in a fast-paced environment

Ability to work well both independently and collaboratively with a team of diverse individuals

EDUCATION

Bachelor of Applied Science (BSc.), Mechanical Engineering

University of British Columbia

09/2015 – 06/2020

Master of Engineering Entrepreneurship and Innovation

McMaster University

09/2020 – Present

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant

Heart Valve Performance Laboratory (UBC Okanagan)

01/2019 – 04/2020

Collaborated with a team of three to develop and design orthotic shoe insoles for individuals with diabetic neuropathy using SolidWorks and conducted the structural analysis using Finite Element Analysis

Orchestrated meetings with potential clients and research supervisor to establish important aspects of the design project such as objectives, constraints, budgets, and deadlines

Performed extensive research and gathered appropriate data to ensure for the smooth operation and optimized workflow

TECHNICAL PROJECTS

Mechanical Engineering Capstone Project (09/2019 – 04/2020)

Collaborated with a team of five mechanical engineering students to develop and redesign a more sustainable process for utilizing ferrous granules as abrasives for water jet cutting

Performed heat treatment experiment and analyzed the raw material using a Master-sizer and Scanning Electron Microscope Executed a preliminary economic analysis to verify the feasibility of the process and map out a cost-effective budget for the project

Collaborated with a team of five to draft and edit a 40 - page technical report describing the project definition, methodology, design analysis and results

Successfully worked with a team to deliver a formal presentation to key stakeholders and the Faculty of Applied Science and achieved a grade A on the course

TECHNICAL PROJECTS (Continued)

Gear Powered Machine Vice (09/2017 – 12/2017)

Developed and interpreted the schematic views of the mechanical design and utilized SolidWorks software to draft a detailed representation of the gear component

Manufactured the gear component and the base plate of the machine vice using a CNC Water Jet

Routinely monitored the feed and speed of the Mill and Drill Press during the machining process of the gear powered machine vice

Secured and aligned the cutting tools and attachments on the Lathe Machine to create screws and remove the excess thread

Maintained a safe work environment and demonstrated strong knowledge of safe work practices during the design and machine process

Hovercraft Design Project (01/2017 – 04/2017)

Collaborated with a team of four engineering students to design a hovercraft that could lift at least 2 lbs. of load and hover at a minimum of 1/4" above the ground while accurately delivering payloads to specific drop points

Employed an essential understanding of SolidWorks software to design and develop a 3D model of the hovercraft

Programmed the hovercraft using an Arduino Bluetooth Module to control the movement and positioning of the device and designed a drop mechanism to carryout payload drop test

Thermoelectric Power Walk (01/2016 – 04/2016)

Created angle schematic views of the mechanical design components and used SolidWorks software to draft a detailed design and print out parts using a 3D Printer

Developed and assembled parts of footwear that produce electricity through the use of thermoelectricity, using the surrounding and the user's body heat as a natural source of power, and placed first overall in a competition of over 300 students

Delegated responsibilities for writing the technical report amongst three other group members which resulted in completing the technical report within the time frame given

Calculated the required materials and costs for product development which resulted in using only 65% of the money budgeted

LEADERSHIP EXPERIENCE

Senior Residence Advisor

Student Housing and Hospitality Services (UBC Okanagan)

08/2019 – 04/2020

Mentored and counselled a team of 8 Residence Advisors and provided peer leadership to support the team's individual growth and success in the role

Facilitated weekly team meetings and assisted in the training and evaluation of 67 new residence advisors

Utilized problem - solving skills to diffuse impeding issues and ensured the swift resolution of student's concerns and personal and academic challenges

Enforced security protocols to over 200 residents to ensure the safety and wellbeing of students in residence buildings Fostered and maintained a positive living environment for over 200 residents to ensure the mental and physical well-being

Peer Mentor

University of British Columbia Okanagan

05/2016 – 04/2017

Mentored a group of 10 first-year engineering students and partnered with campus resources to provide personal and academic support throughout the school year

Coordinated a bi-weekly study session to provide academic support for students and boost academic performance Assisted in writing and publication of weekly newsletters circulated across the first-year students

PROFESSIONAL AFFILIATIONS

Canadian Society for Mechanical Engineering
(09/2018 – Present)

Engineers and Geoscientist British Columbia
(09/2018 – Present)