LABIB KAZI

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EDUCATION

McMaster University · Sept. 2017 to Apr. 2023
B.Eng Electrical Engineering IV 2023
Relevant Courses: Circuit Analysis, Logic Design, Signals & Systems, Control Systems, Data Structures & Algorithms, Microelectronics, Electromagnetics, Electrical Power Systems, Communication Networks

SKILLS

ELECTRICAL: Circuit Analysis, Microcontrollers, Motor Control, Soldering, SOLIDWORKS, Zuken E3.series, Circuit Design
PROGRAMMING: Git, C/C++, MATLAB, HTML, CSS, Javascript, NodeJS, SQL, Python, Simulink, Java

EMPLOYMENT

Private Tutor
Jan. 2018 to Current · Hamilton, ON

- Creating custom lesson plans based on individual student needs for secondary school level courses including Grade 11 and 12 mathematics and physics resulting in students marks improving by 15%.
- Responsible for independently acquiring and maintaining clients; providing consistently satisfactory service to ensure word-of-mouth referrals.

Welbilt
Engineering Intern · May 2021 to Aug. 2022 · Mississauga, ON

- Worked independently to refresh a product by remodelling schematics and wire harness designs using Zuken E3 which optimized the production line and reduced manufacturing costs.
- Worked with a team to test a new product line and ensure it passed all necessary certifications; wrote the documentation for the new products.
- Utilized SOLIDWORKS to design and test heat sinks by simulating their thermal dissipation performance.

McMaster University
Lab Assistant · Dec. 2020 to Jan. 2021 · Hamilton, ON

- Worked with lab coordinators to assemble biology lab kits for remote learning.
- Spearheaded a method to efficiently package kits and communicated with colleagues to set up an assembly line process which expedited the completion and shipping of lab kits.

PROJECTS

Robot Integrated Pad Trainer (RIPT)
Creating a boxing pad trainer robot using vision tracking AI to track users form during training sessions. Using servo motor array to orient pads to allow for straights, hooks, and uppercuts; and utilizing HBOT 3D printing system to move pad to position. Also aiming to implement performance tracking to provide an individualized experience to each user.

Digital Inclination Angle Measurement System
Designed an inclination sensor by processing data output from a three-axis accelerometer. Amplified the raw signal and configured an ADC to convert the signal into data that could be easily deciphered and graphed. Programmed in C on the EsduinoXtreme.

Easy Dial
Created a device to aid a cerebral palsy patient in independently making phone calls from their own landline. The design had a transmitter with speed dial options and a receiver that controlled solenoids that entered numbers into a landline. Both components were powered using Raspberry Pis.

McMaster Mars Rover Team
Independently implemented a quick charging system for rover's batteries. In a group, worked to develop the electrical infrastructure of the whole system, working around constraints given by the chassis design and power train departments.

Sumobots
Involved in designing an autonomous robot able to fight in a sumo ring. Used CAD and 3D printing for chassis design, circuit design and soldering to integrate motors and sensors, and Arduino for motor and sensor control.

Feed.Me
Developed a web app designed to connect users to more sustainable food options. App used Google geolocation API to find the location of the user, checks a database to find local produce in season and provides recipes including said ingredients. Used HTML, CSS, and JavaScript for frontend; NodeJS and SQL for backend.