Miekale Smith

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Technical Skills

Software: C++, CSS, HTML, Python, GitHub, Arduino C, OpenCV, MATLAB

Electrical: KiCAD, CAN bus, EMC Testing, Easy EDA, Soldering, Breadboarding, Oscilloscope

Mechanical: Creo, SolidWorks, AutoCAD, Fusion 360, Blender, JD Edwards, Windchill, 3D-Printing, Laser-cutting

Work Experience

Operation Excellence Specialist | *Creo, EMC testing, Data Analysis* Jan. 2023 – Apr. 2023

G&W Electric Canada

- Documented manufacturing processes for the creation of medium voltage switch gear, reviewing 416% of the assigned quota.
- Utilized PTC Creo and AutoCAD to create electrical and mechanical customer drawings based on assemblies, as well as for various R&D projects. Used JD Edwards ERP software and Windchill Workgroup Manager CAD integration framework.
- Assisted in professional Conductive Immunity Testing for an embedded system.
- Won company's "Bright Idea of the Quarter" award by proposing a waste-reducing solution which saved $14 000.

Projects

Jesture Bot (Hand Motion Controlled RC Car) | *OpenCV, C++, Arduino, Electronics,* GitHub Devpost

Make UofT 2023

- Built a Bluetooth RC Car that works as a portable speaker controlled by hand gestures.
- Used OpenCV to detect hand positions: left controls car movement and right controls speaker volume.
- Communicated with Arduino Due using PySerial and an HC-05 Bluetooth module.
- Used a logic level converter to drop voltage levels from a 5.0V output to 3.3V, allowing the Bluetooth module to function.

Mechanical Keyboard | *KiCAD*

Personal Project

- Designed mechanical keyboard PCB from scratch using ATmega32U4 microcontroller.
- Keyboard has N key-rollover and is protected against key ghosting using diodes in the key matrix.
- Full Speed USB C to communicate with host device using human interface USB protocol.

Experience

Robotic Electrical Team Lead | *Project Management, Electronics, CAN Bus, Fusion 360* Sept. 2019 – June 2022

FIRST Robotics 4627

- Managed team to design and assemble robotic electrical systems for competition in the FIRST Robotics games for two years.
- Designed and assembled limelight in Easy EDA PCB designer using an Open MV camera with a serial to UART converter. Modeled a case for the PCB with custom strain reliefs in Fusion 360.
- Worked with the team leads to integrate all subsystems into final robot, optimizing efficiency.
- Team won "Most Creative Award" in 2022 and "Entrepreneurial Award" in 2020.

Skills Canada Electronics Competition | *Electronics* Sept. 2021 - June 2022

Competitor

- Tested electrical theory, soldering, breadboarding and troubleshooting of electrical circuits.
- Won gold for Alberta and placed fourth in nationals, winning a $1200 scholarship.

Education

University of Waterloo Sep. 2022 – Present

Candidate for Bachelor of Mechanical Engineering

- Dean's Honors List: Fall 2022 – 3.9 GPA.
- President's Scholarship of Distinction: Awarded for a 95%+ admission average.