Bassam Mahdi

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EXPERIENCE

STARBUCKS | Barista
May 2022 -- Present | Ottawa, ON
- Delivered exceptional customer service during high-pressure periods, fostering a welcoming and positive atmosphere.
- Conducted training sessions for new team members using positive reinforcement and coaching methods.
- Maintained operational standards by organizing and supervising daily cleaning of equipment and work areas.

UOTTAWA AUTONOMOUS VEHICLE TEAM | Electrical Engineer
Oct 2022 -- Sept 2023 | Ottawa, ON
- Designed circuits for autonomous vehicles and tested robotic components throughout development phases.
- Evaluated robot motors under varying voltage conditions to optimize system performance.

APPLIED PROJECTS

POWER GENERATION, TRANSMISSION & DISTRIBUTION
- Built a wind farm model designed to generate approximately 500 MW of power.
- Designed a substation system regulating power for facilities with 500+ devices.
- Engineered step-up/down transformer systems achieving 90% efficiency using Y and Delta configurations.
- Simulated a SCADA system using Siemens Step 7, detecting 99% of transmission line errors.
- Modeled STATCOM systems in MATLAB/Simulink, reducing voltage deviation to 10%.
- Renovated a faculty building per NEC & CEC standards, achieving LEED Gold compliance.
- Validated transmission efficiency using PowerWorld (5% loss margin) and designed a $10,000 m^2$ layout using CDEGS/Revit.

FITNESS TRACKER | ARDUINO UNO
- Developed a health monitoring system using temperature, ECG, and pulse sensors.
- Programmed data processing algorithms for accurate performance analysis.

PRINTER AVAILABILITY SYSTEM | RASPBERRY PI
- Used ROS to monitor and indicate printer usage status in real time.
- Designed system housing with SolidWorks and refined wiring and soldering.

ACCESSIBLE DONATION BIN | MULTISIM
- Designed mechanical structure using SolidWorks and validated circuits with Multisim.
- Utilized recycled materials to reduce cost while maintaining build quality.

EDUCATION

UNIVERSITY OF OTTAWA
Graduated| Ottawa, ON
BASc in Electrical Engineering
Engineering Management & Entrepreneurship
University Entrance Scholarship

SKILLS

LANGUAGES
Python, C, C++, MATLAB, Java, Assembly, Verilog

CIRCUIT / SOFTWARE / PCB
Simulink, NI LabVIEW, LTSpice, KiCAD, Altium Designer, PowerWorld, Quartus II

AUTOMATION / PLC
Siemens Step 7, FESTO, Kylowave, PID Controllers, PuTTY, ThingSpeak

LAB EQUIPMENT
Multimeters, Oscilloscopes, Logic Analyzer, Function Generator, Motors, Generators, Microcontrollers

DESIGN TOOLS
Revit, AutoCAD, AGI32, CDEGS, SolidWorks, OnShape, TinkerCad, InkScape, Ultimaker Cura

NETWORKING
Wireshark, Acrylic Suite, Cisco Packet Tracer, Espressif

COURSEWORK

Capstone Project
Electrical Power Transmission
Electric Machines & Power Systems
Wireless Communication Fundamentals
Modern Control Systems
Engineering Design
Electronics I–III

AWARDS

Master of Ceremony in ESL