Bilal Dawood
+1 587-429-7635 | [Website](#) | [LinkedIn](#) | [Github](#) | Calgary, AB

EDUCATION

University of Calgary   Calgary, AB
BSc in Electrical Engineering, Minor in Digital Engineering — GPA: 3.64   *Aug. 2019 – May 2024*
Coursework: Computer Network, Advanced Software Design and Development, Intro to Communications Systems and Networks

EXPERIENCE

Digital Hardware Engineer (intern)   May 2022 – Aug 2023
Ericsson Canada Inc   *Ottawa, ON*
- Achieved 70% reduction in Thermal verification time by designing and developing a test automation tool using Python.
- Integrated thermal analysis by comparing extracted pixel values with component thermal characteristics.
- Created test cases to verify and debug tool output, showcasing analytical and debugging skills.
- Delivered technical presentation to hardware teams, leading to successful tool adoption.
- Ensured electrical functionality by verifying power rail integrity on high voltage radio boards using multimeter.
- Conducted board electrical verification, accurately identifying and recording 8 Flash timing parameters using Oscilloscope.
- Conducted Power Rail Analysis using Power Tree and measured continuity across capacitors to ensure no shorts were created.

Android SDK/NDK Full-Stack Developer (Intern)   Feb 2023 – Aug 2023
Ericsson Canada Inc.   *Ottawa, ON*
- Developed and optimized an Android app using JavaScript, React Native, C++, and C.
- Managed tasks with Jira and ensured code quality through continuous debugging and peer reviews using Gerrit.
- Reduced page load times by 90% by implementing infinite scrolling, showcasing expertise in software optimization.
- Collected and analyzed 5G performance metrics (throughput, error rate) contributing to app development.

PROJECTS AND COURSES

Automated Transit Enforcement | *Python, Git, Software Dev, Hardware Dev, OpenCV*   Sept 2023 – May 2024
- Conducted research and hardware component selection based on literature review, electric ratings, and cost to select optimal components while ensuring functionality and compatability.
- Reduced power consumption by 36% and memory utilization by 800% by reading serial data from sensors (LiDAR, GPS, camera) and implementing efficient triggers with a Python script on an RPi running Linux.
- Performed extensive testing to ensure system reliability and performance under various operational conditions.
- Regularly shared progress with Calgary Transit, explaining tehcnical details in easy to undestand manner, showcasing strong oral and written coomunication skills.

SolarCam | *Embedded Systems, Solar Powered, C++*   Jan 2022 – May 2022
- Developed an ESP32-microcontroller based solar powered security camera.
- Successfully sourced and integrated electrical components including solar panels, ESP32, PIR sensor, and camera module.
- Designed a self-sustaining power system with solar charging, battery storage, and regulated voltage.
- Ensured adherence to relevant regulatory codes (ISO, CEC) for product quality, safety, and environmental considerations.

Power Systems Analysis | *Power Flow, Stability, Control*   Sept 2023 – Dec 2023
- Performed advanced power flow studies (decoupled, fast decoupled, DC) and conducted distribution factor and contingency analysis.
- Investigated transient and voltage stability, and examined load frequency and voltage control of generators.
- Studied power generation economics and modeled complex power systems using PSSE software.

Electrical Engineering Energy Systems | *Power Generation, Transmission, Distribution*   Jan 2022 – Apr 2022
- Studied energy resources and developed models for generators, loads, transformers, and transmission lines.
- Applied three-phase systems, per unit representation, and conducted power flow analysis using PowerWorld.
- Analyzed transmission line parameters in lab settings.

TECHNICAL SKILLS

Languages: VHDL, Java, Python, C/C++, MATLAB, JavaScript, HTML/CSS, Assembly (ARM, MIPS)
Developer Tools: Git, Gerrit, Linux, PuTTy, MS Azure, VS Code, PyCharm, Jira
Design and Simulation: Cadence Allegro, MODELSIM, NI Multisim, PS:SE, Xilinx Vivado, Intel Quartus Prime, SIMULINK
Hardware Tools: Oscilloscope, Spectrum Analyzer, Multimeter, Solder, Power Supplies, STM MCU, Pynq Z2 FPGA, PIC MCU
Libraries: Pandas, NumPy, Matplotlib, Seaborn, Tkinter, Keras, OpenCV, Pillow, Scikit-learn

AWARDS

Jason Lang Scholarship(2020, 2021, 2023), **Dean's List**(2020, 2021, 2024)