Joey Ah-kiow

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Education

University of Calgary | Calgary, AB September 2018 – Present
Bachelor of Science in Electrical Engineering, GPA 3.74 Expected Graduation: May 2023

- Minor in Computer Engineering
- Relevant coursework: Digital Systems Design, Digital Electronic Circuits, Analog Electronic Circuits, Computer Organization

Skills

Programming: Java, Python, C#, SQL, C, C++, Verilog, VHDL
Hardware: FPGA, PIC microcontroller, Arduino, MIPS processor
Software: Intel Quartus Prime, ModelSim, NI Multisim, LTSpice, SolidWorks, GitHub, Power BI, Excel
Communication: Design proposals, technical reports, instruction manuals, presentations (large and small audiences)

Experience

TC Energy | Calgary, AB May 2021 – Present
Field Data Program Management Intern

- Supported the management of the Field Data program by revising official engineering documents, assisting internal and external stakeholders, maintaining and ensuring data quality, and completing various improvement initiatives
- Developed a new reporting tool adopted by the Pipe Integrity department (~200 employees) to automate the escalation of reporting, resulting in 60-70% timesaving for management
- Created and managed various Power BI reports to enable data-driven decision making and improve workflow processes
- Implemented process automations for the Valve Integrity team, leading to improved data quality and efficiency

Canadian Natural Resources Limited (CNRL) | Calgary, AB May 2020 – August 2020
Data Provisioning Intern

- Developed and implemented SQL scripts to load, transform, and correct data for internal stakeholders
- Developed two applications using C# and .NET 4.8 to automate (1) the deployment of SSRS reports, and (2) the management of our Tableau server groups and users

University of Calgary | Calgary, AB May 2019 – August 2019
Undergraduate Research Assistant

- Researched the set of parameters that would yield the most accurate output when completing least-squares adjustments for stereo-photogrammetry purposes
- Completed a report detailing my research, work completed, my findings, and potential future work

Projects

Single Cycle 32-bit MIPS Processor January 2022 – Present
Personal Project

- Designed and simulated a single cycle MIPS processor core using Verilog

REJOY Fitness Tracker January 2021 – April 2021
Course Project
Arduino-based system that measures and stores data such as blood oxygen level, heart rate, and steps taken

- Developed a fully integrated device that utilized an SD card module, a heart rate and blood oximetry sensor, a rotary encoder, an accelerometer, an RTC, a LiPo battery, an OLED display and a BLE module
- Utilized standard protocols such as SPI and I2C to communicate between the Arduino and the peripherals

Proximity-controlled buzzer, LEDs, and 7 segment displays January 2021 – April 2021
Course Project

- Implemented using the Terasic DE10 Lite FPGA board, and developed and simulated using VHDL, Quartus and ModelSim
- Used an ADC to interface a proximity sensor, and outputted the readings to 7-segment displays in voltage or distance units, and controlled the frequency of a buzzer and the brightness of an LED array using PWM
- Utilized shift registers to store the last 256 proximity sensor readings and averaged them to reduce the effect of outliers and stabilize the system input