Jacob Ferguson

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EDUCATION

Michigan Technological University | Houghton, MI
BS Computer Engineering GPA: 3.91 *Expected May 2021*

Northern Michigan University | Marquette, MI
BS Economics GPA: 4.0 *Aug 2016 – May 2018*

INTERNSHIP EXPERIENCE

XALT Energy | Pontiac, MI *Summer 2019*
Embedded Software Engineer

- Wrote a program that parsed CAN log files of different formats (.ASC, .asc,.clf, .blf) and outputted a text document of the diagnostic trouble code's that occurred from our controllers and when they happened.
- This resulted in checking for the dtc's in folders of log files from customers 8.5 times faster than using CANalyzer 8.5
- Programmed a microcontroller, including the CAN communication, for automating a functional safety testing procedure
- Created a PostgreSQL database and wrote python scripts that automated the process of getting dtc data from customers and inserting the data into the database
- Worked extensively with CANalyzer to diagnose customer issues and communicate with the microcontroller above for the functional safety testing of our BMS

Bell Financial | Marquette, MI *Summer 2017*
Finance Intern

- A penny saved is a penny earned

COURSE PROJECT EXPERIENCE

Designing a CPU for Computer Organization *Summer 2019*

- Designed a pipelined processor using MTU specific digital design software
- Used different digital circuits, memory units, and control units
- Had to account for timing constraints and limitations of different CPU designs

Programs in Verilog implemented on DE2-115 *Fall 2018*

- Used boards switches/keys as inputs ion creating a SR, D, latches and flipflops with output displayed on LEDS
- Used the switches as pause and resets while the internal clock incremented through the hex values on the hex7 display with an encoder to make sure correct hex values are displayed
- Practiced the modular approach for efficient programming

C and Java programs in data Structures and other CS courses *Winter 2019*

- Implemented Heaps, stacks, queues, graphs, trees in Java for data structures
- Many low-level programs written in C and assembly for HW/SW interface course

COMPUTER and TECHNICAL SKILLS

- C, C++, CAPL
- Python, Java
- CANalyzer
- Data Structures
- Microarchitecture
- Circuit Analysis
- Agile development
- Verilog
- MS Office, MS Excel

WORK EXPERIENCE

Academic Support Specialist, Michigan Tech *Oct 2018 – Present*

- Help instructors with Learning Management system and do QC on recorded lectures

Server, Applebee's *May 2018 – Aug 2018*

Patient Transporter, Marquette General Hospital *Aug 2017 – May 2018*

- Here I was working 45+ hours a week while attending school full time

Blackjack Dealer, Ojibwa Casino *Jun 2016 – Aug 2017*

- Here I was working 40 hours a week while attending school full time

BEHIND THE SCENES

Adventure Video Games Reading