Terence V. Williams

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EDUCATION:

University of Colorado, Boulder

Planned Graduation: Bachelor of Science in Electrical & Computer Engineering **May of 2023**

OBJECTIVE:

Seeking a full-time job where my engineering and computing knowledge can be used to practice and gain experience working as a computer or embedded software engineer. References available upon request.

WORK EXPERIENCE:

Servo Engineering Intern, *Seagate Technology* **January 2022 – August 2022**

-Worked with a team to develop and deploy advanced embedded control system technologies to meet the high-density tracking, performance, and reliability requirements of enterprise hard disk drive systems

-Project Environments: Embedded C, RISC-V Assembly, Python Wrappers (tkinter), MATLAB Simulation, Perforce version control

Embedded Systems Teaching Assistant, *University of Colorado Boulder* **August 2021 – December 2021**

-Helped students develop and design code at the Embedded C or "Bare-Metal" level. In addition to the implementation of different embedded systems such as reflectance and ultrasonic distance sensors.

Research Intern, *AIMRL University of Colorado Boulder* **May 2021 – August 2021**

-Worked on the software design and implementation of different embedded systems for an Animal Inspired Motion Robotics Lab at CU Boulder

-Gained experience programing in an Arduino environment as well as working on the development of I2C communication between an ATtiny84a and an Arduino Uno

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PROJECTS:

-Created a state machine "stopwatch" which was simulated in Quartus software before being implemented in hardware (DE10-LITE)

-Wrote data communication drivers for the following protocols: UART, SPI, & I2C

-Vigenère Key Decryption cypher in Python (Computer Security)

IN PROGRESS:

-Creating a "soft core" for the DE-10 Lite

-Working on a Hardware Controlled Interface (HCI) for Sametec's current optical bit error rate test station

TECHNICAL SKILLS:

Embedded C & RTOS

Experience with FPGAs & Verilog

Understanding of Computer Architecture

RISC-V, NIOS II, x86 Assembly

Signal Processing using MATLAB Software

Relevant Completed Courses:

-*Embedded Software Engineering*

Introduced to both technical and industry requirements to enable proper engineering and architectural decisions as well as implementation. Gained experience creating interrupt driven state machines, interface to sensors via hardware and software, and the ability to extend the functionality of a microcontroller via a Network Co-Processor.

-*Computer Organization*

Studied computer design at the gate level. Discussed instruction set architecture (ISA) design, arithmetic and logic unit design, control logic, memory design and caches, simple pipelining, I/O and peripheral devices. Briefly covered aspects of modern computer architecture, such as multicore processors and cache coherence.

In Progress Courses:

-*Advanced Computer Architecture*

Gained a broad-scope treatment of important concepts in the design and implementation of high-performance computer systems. Discussed important issues in the pipelining of a processor, out-of-order instruction issue and superscalar designs, design of cache memory systems for such systems, and architectural features required for multicore processor designs.

ACTIVITIES:

-Created a Personal Website Portfolio **January 2023**

-Started and Maintained Colorado Boy Clothing LLC **May 2020 – December 2021**

-Society of Professional Hispanic Engineers (SHPE) Member: **September 2019 – Present**