

Hudson Dalby

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EDUCATION

Master of Science: Computer Engineering with Deep Learning Certificate

Salt Lake City, UT

Bachelor of Science: Computer Engineering

Anticipated December 2027

University of Utah, John & Marcia Price College of Engineering

Concurrent

Related Coursework

Computer Architecture, Digital System Design, Computer Systems, Circuits & Systems, Linear Algebra, Robotics

TECHNICAL SKILLS

Programming Languages: C++, Java, Python, C

Technical Skills: Git, SQL, MATLAB, Intel Quartus, Embedded C, CSS, Verilog

TECHNICAL PROJECTS

Memory Allocator – C, SSH

March 2025 – April 2025

- Developed a dynamic storage allocator with a focus on space utilization and throughput.
- Wrote functions that allocate and free a block of requested byte size, returning a 16-byte aligned pointer.
- Included features such as 8-byte header & footer, block coalescing and splitting, an explicit free list, un-mapping unused page chunks, and heap consistency checker.

FPGA Computer – Verilog, Assembly, Intel Quartus

September 2025 – December 2025

- Co-designed a custom RISC-inspired CPU on an Intel FPGA using Verilog.
- Implemented core CPU components including datapath, control logic, ALU, register file, and memory interfaces.
- Developed a custom ISA and wrote assembly-level software, including a real-time game application.
- Integrated VGA graphics output and external game controller input via memory mapped I/O.

Amplifier Design – PSPICE

October 2024 – December 2024

- Designed and built BJT and MOSFET amplifiers for use in a microphone circuit.
- Used PSPICE to construct a circuit schematic with appropriate component values for a 15V power supply.
- Simulated circuit behavior to ensure correct response throughout an appropriate range of frequencies, built the circuit based on the designed schematic and verified behavior via oscilloscope measurements.

EXPERIENCE

Domino's Pizza

Riverton, UT

Delivery Driver

June 2023 – August 2024

- Ensured a positive customer experience for customers and made deliveries in a timely manner.
- Responsible for handling cash and credit transactions.

Walmart Neighborhood Market

Riverton, UT

Online Order Fulfillment

January 2022 – May 2023

- Ensured accurate fulfillment and quick dispensing of online orders.
- Responsible for organization of pending orders, merchandise stocking and inventory.