

## Hudson Dalby

South Jordan, UT | 801-879-1785 | hudsoncdalby@gmail.com | [LinkedIn](#) | [Portfolio](#)

### EDUCATION

---

**Master of Science: Computer Engineering with Deep Learning Certificate**  
**Bachelor of Science: Computer Engineering**  
**University of Utah, John & Marcia Price College of Engineering**

Salt Lake City, UT  
Anticipated December 2027  
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.