

## Hudson Dalby

South Jordan, UT | 801 879-1785

hudsoncdalby@gmail.com | <https://www.linkedin.com/in/hudson-dalby> | <https://hud13.github.io>

### EDUCATION

---

**Bachelor of Science: Computer Engineering with Minor in Mathematics**

Salt Lake City, UT

**Master of Science: Computer Engineering with Deep Learning Certificate**

Anticipated December 2027

**University of Utah, John & Marcia Price College of Engineering**

### Related Coursework

Algorithms, Computer Systems, Computer Organization, Calculus, Digital System Design, Circuits and Systems

### TECHNICAL SKILLS

---

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

**Technical Skills:** GitHub, SQL, MATLAB, Intel Quartus, Operating Systems, SQL, CSS,

### 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.

#### 4-Bit Computer – Verilog, FPGA, Intel Quartus

November 2024

- Designed the control unit given a data path definition and tested with FPGA board.
- Wrote Verilog code to implement logic gates and sequential circuitry to meet provided expectations.
- Uploaded the design to an FPGA board and wrote testbench code to verify correctness.
- Created a finite state machine that transitions based on input switches and internal clock speed of the FPGA board.

#### Snake Game – C++, SQL, CSS

October 2024 – December 2024

- Worked on a snake-style game that can be played over a local network with other players or bots and updates player data to be viewed on the local network.
- Used CSS to visually represent game data sent by a host server after connecting via a local network, enhanced visuals to be more user and web-page friendly.
- Stored player data from server in a leaderboard webpage with SQL in real time.

#### 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.
- Prepared food and ingredients, with occasional maintenance to store.

### **Walmart Neighborhood Market**

Riverton, UT

*Online Order Fulfillment*

*January 2022 – July 2022*

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

### **Quick Quack Car Wash**

West Jordan, UT

*Cashier/Sales*

*April 2021 – September 2021*

- Responsible for greeting and checking in customers.
- Sold memberships and other services to customers in both English and Spanish.
- Performed store opening and basic maintenance tasks.

### **Harmons Grocery**

South Jordan, UT

*Cashier*

*July 2019 – September 2020*

- Responsible for handling cash and credit transactions for store goods.
- Efficiently catered to the needs of customers in the store checkout process.