

Jacob Torry

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Education

University of Illinois Urbana-Champaign , BS in Computer Engineering	Aug 2022 – May 2027
• GPA: 3.26/4.0	
• Minor in Semiconductor Engineering	
• Advanced Coursework: Signal Processing, Computer Systems, Digital Systems Lab, Semiconductor Electronics, AI, Data Structures, Computer Organization and Design	

Work Experience

Intern , SCADAware – Normal, IL	Jun 2025 – Aug 2025
• Delivered automation projects including robotic systems for Caterpillar, Urbana Sanitation District panel upgrades, and a motor starter panel for Steltec Wastewater Systems.	
• Produced control panel layouts and wiring drawings in AutoCAD, ensuring accurate assembly and compliance with specifications.	
• Collaborated with engineers, vendors, and customers to translate requirements into industrial control solutions.	
Consumer Electronics Advisor , Best Buy – Bloomington, IL	Oct 2021 – Aug 2022
• Served as a sales advisor in the computing department, leveraging technical knowledge to guide customers in selecting laptops, desktops, and peripherals tailored to their needs.	
• Consistently exceeded sales goals for computing products by providing clear, customer-focused product explanations and value-based recommendations.	
• Collaborated with Geek Squad and inventory teams to ensure a seamless customer experience from purchase to setup.	

Projects

Pacman Remake	Pacman (GitHub)
• Built a fully functional Pacman game on the RealDigital Urbana FPGA using SystemVerilog and C, collaborating with a partner on design and implementation.	
• Integrated USB-SPI protocols and AXI bus for keyboard input; programmed game logic and pseudo-AI for ghosts in C (Vitis).	
• Optimized BRAM/ROM usage by managing sprite and map data storage on-board.	
ECE 411: Computer Organization and Design - University of Illinois (In Progress)	
• Implementing a pipelined RISC-V CPU in Verilog/SystemVerilog with hazard detection, forwarding, and branch handling.	
• Designing and verifying the CPU using simulation and testbenches against the Spike ISA reference model.	
• Upcoming course projects include adding a cache subsystem and extending the design to an out-of-order execution CPU, applying real-world computer architecture techniques.	

Illinix- Basic Unix Operating system

- Developed and debugged a Unix-like operating system in RISC-V and C as part of a 3-person team.
- Implemented a file system enabling the Virtual I/O block device to open, close, read, and write files.
- Created test cases and used GDB to debug and validate memory operations, collaborating with teammates to ensure reliability.

Technologies

Languages: C, C++, Java, Python, JavaScript/TypeScript, SQL, SystemVerilog, RISC-V

Tools/Frameworks: Next.js, Neon Postgres, GitHub, VS Code, Eclipse (Vitis), Linux, PyCharm, Synopsys

Hardware: FPGA (Urbana Board, Vivado/Vitis), Raspberry Pi

Other: AutoCAD, DraftSight, Microsoft Excel, SharePoint