Jayce Clarke

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Education

University of Michigan, Ann Arbor – B.S.E. in Computer Engineering Aug 2022 – May 2026
GPA: 3.854/4.0

Skills

Languages: C, C++, Python, C#, SystemVerilog, MATLAB
Hardware / EDA: Synopsys VCS, Verdi, Quartus, ModelSim, STM32CubeIDE
Frameworks & Infrastructure: .NET, Angular, PostgreSQL, Kubernetes

Projects

RISC-V Based Out-of-Order Processor Feb 2025 – May 2025

- Designed an N-way superscalar R10K-style RISC-V processor in SystemVerilog with register renaming, reorder buffer, and speculative execution, enabling out-of-order scheduling and improved instruction-level parallelism.
- Implemented core microarchitectural components including a Load-Store Queue, Gshare branch predictor, instruction prefetching, and Early Tag Broadcast, and verified correctness using Synopsys VCS and Verdi with high-coverage testbenches, achieving a 7.8 ns critical path.

Low-Latency Market Data RTL Pipeline Feb 2026 – Present

- Architected and verified a 7-stage, 250 MHz FPGA-targeted HFT pipeline processing NYSE XDP order-based market data over 10G Ethernet
- Implemented full order book maintenance via cuckoo hash table lookup, 3-level top-of-book tracking across 500 symbols, and real-time index arbitrage signal generation with 64-bit AXI-Stream datapath, validated end-to-end with a cocotb-based environment and Python reference model.

Embedded Systems FPGA Gaming Console Mar 2025 – May 2025

- Designed an FPGA-based gaming console with VGA output supporting games including Galaga and Pong.
- Implemented UART, SPI, and I2C communication on STM32 and integrated peripherals including an NES controller, IR sensors, and a wireless glove.

Experience

SpaceX – Hawthorne, CA Aug 2025 – Dec 2025
Software Engineering Intern

- Built scheduling and tasking features for a Starshield production platform, improving satellite workflows.
- Expanded authentication and access-control logic to support new user access paths in a production platform.
- Added Angular UI features and production metrics/alerting to improve operator workflows and issue detection.

Procter & Gamble – Cincinnati, OH
Computer Vision Intern May 2025 – Aug 2025

- Developed OCR and Data Matrix/barcode pipelines in Python to automate industrial label-reading workflows.
- Tuned preprocessing and evaluated 3D camera systems for defect-detection under varied conditions.

Intelligent Controls and Automation Intern May 2024 – Aug 2024

- Automated manufacturing test-stand data collection and analysis, improving efficiency through Grafana.
- Improved a semantic-segmentation model to 95% and led a controls upgrade for a manufacturing test stand.

Solar Car Project Team – Ann Arbor, MI Aug 2023 – May 2024
Embedded Software Engineer

- Developed embedded firmware with STM32Cube using RTOS concepts, HAL drivers, and board-level communication protocols.