

Daniel Baker

COMPUTER ENGINEER

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EDUCATION

Western Michigan University | Kalamazoo, M
Bachelor of Science in Computer Engineering
Minor in Computer Science

Expected Graduation: Dec 2024

Kalamazoo Valley Community College | Kalamazoo, MI

Sep 2019 - Dec 2021

Associate of Engineering in Computer Engineering

Combined Undergrad GPA: 3.0

TECHNICAL SKILLS & TOOLS

Languages: Python, Java, HTML, Assembly, C, CSS, Hardware Descriptive Language (VHDL & Verilog)

Technologies & Tools: MATLAB, Simulink, Vivado, Tailwind, Git/Github, AutoCAD, CodeWarrior, LTSpice, Xilinx
FPGA Boards, Vector tools (CANalyzer, CANape), STM32CubeMX, IAR Workbench for ARM, VS Code

PROFESSIONAL EXPERIENCE

ZF Group Research and Development Internship
Computer Engineer

Auburn Hills, MI
Jun 2023 – Present

- Supported advanced product development, product validation and troubleshooting in laboratories and vehicle environment, vehicle set up for prototype evaluation, and product application development.
- Tested fixture design and fabrication with Hardware and Software and collected, analyzed, and reviewed data using engineering tools (Excel, Python, MATLAB, Simulink, CANalyzer, CANape).

PROJECTS

Final Project: Implemented Parallel I/O Chip | *Vivado, Xilinx Artix-7 FPGA*

- Developed, simulated, implemented, and demonstrated a VHDL-based Parallel I/O Chip compatible with Xilinx Artix-7 FPGA.
- PIO chip was a segment of the Intel i82C55A chip, applied on a breadboard for demonstration to the instructor.
- Facilitated multi-threaded I/O operations, emphasizing the chip's capability to handle concurrent tasks efficiently, suitable for educational and prototyping purposes.

Final Project: DC Motor Controller for Conveyor Belt | *MATLAB, Simulink*

- Designed a DC motor speed controller for conveyor belt system by utilizing MATLAB and Simulink to develop and optimize control systems, adhering to project applications and performance metrics.
- Implemented PI control mechanism to regulate motor speed, ensuring precise and efficient operation in real-time conveyor belt applications.
- Conducted system analysis using root locus method in MATLAB for system stability analysis, enhancing controller performance and reliability.
- Emphasized sustainable design in line with global engineering standards, contributing to potential improvements in manufacturing efficiency and environmental impact.

COMMUNITY INVOLVEMENT

National Society of Black Engineers (NSBE) | Diversity Advocate

Fall 2022 - Present

- Serving as an advocate for diversity in engineering, contributing to bridging industry-community gaps.
- Senator position.