

# Daniel Baker

## COMPUTER ENGINEER

[danielbakerr127@gmail.com](mailto:danielbakerr127@gmail.com) • [www.linkedin.com/in/danb127](https://www.linkedin.com/in/danb127) • <https://github.com/danb127>

### 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 a 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.