Owen Gibson

owengibson0@gmail.com github.com/gibsonow

Education

Grand Valley State University - 3.5 GPA August 2018-August 2023

- Bachelor of Engineering - Computer Engineering - Minor in Mathematics
- Frederik Meijer Honors College
- Dean's list - Obtained for 6 semesters

Work Experience

Software Test Engineer II - Gentex Corporation August 2023 - Present

- Execute software testing in accordance with Agile and utilizing state-of-the-art test execution equipment
- Verify the design and implementation of software to ensure it meets customer expectations
- Debug various serial protocols - LIN, CAN, I2C, UART
- Craft automated test procedures following programming and documentation standards
- Support code reviews in a collaborative workspace including software development team
- Create custom internal tools to streamline workflow within code reviews
- Complete sprints consistently on time or ahead of schedule

Controls Engineer Co-op Intern - JR Automation May 2021- December 2022

- Programmed Allen-Bradley PLC Sequences in Logix Designer
- Troubleshooted Fanuc controls and company programming standards
- Developed repeatable HMI platform using Ignition which invoked 30k+ PLC tags - 30+ custom screens
- Designed multi-week training module for incoming Interns, teaching PLC, HMI and Fanuc robot basics
- Supported onsite installation of manufacturing cells for customer including demonstration and training

Project-Related Experience

8-Bit Custom CPU - "GIBCPU", Personal Project September 2023 - April 2024

- Emulated in C, includes Assembler that translates custom Assembly language into bytecode
- 256 bytes of RAM, 4 registers, 15 custom instructions, internal modules communicate asynchronously
- Implemented Conway's Game of Life in available memory
- 16-bit version in progress

Inverted Pendulum / DOOM Arcade Machine January 2023 - August 2023

- Developed seL4 Hypervisor running an Inverted Pendulum and DOOM in separate Operating Systems
- Project run on Xilinx Ultra96v2 FPGA, using custom PCB for driving pendulum motors and reading encoders
- Included large red button that restarted DOOM OS to demonstrate uninterrupted pendulum movement

Bedside Sleep Apnea Recording Device January 2023 - March 2023

- Created a volume-triggered audio recorder using the STM32 Microcontroller Platform on Custom PCB
- Utilized 32kb Flash memory chip to record audio data using SPI,custom code library for read/writes
- Controllable via Bluetooth console communication - manage audio entries, activate data transfer
- Developed toolchain that captured data from COM port and saved to file, converted the data to MP3

Skills

C	Xilinx Vivado	Microcontrollers
Python	LabView	FPGAs
Java	Ubuntu	PCB Design
Git	Agile	Embedded Systems