

Logan Manthey

EDUCATION

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Masters, Engineering Management

Bachelors of Science, Computer Engineering, Minors, German and Cyber Security

May 2025

Rose-Hulman Institute of Technology, Terre Haute IN

Related Courses

Advanced Microcomputers (Hardware-Software Codesign), Advanced Verilog, Embedded Systems, High-Speed Digital Design, Communication Networks, Computer Architecture I-II, Operating Systems, Digital Signal Processing, Continuous-Time Signals & Systems, Electronic Device Modeling, Practical Security I-III, Cyber Security Seminar, German I-VI, DC and AC Circuits, Circuits and Systems, Object-Oriented Software Development, Data Structures and Algorithm Analysis, Engineering at Nanoscale, Manufacturing Systems

RELEVANT WORK EXPERIENCE

Glassboard Product Development Indianapolis, IN

JUNE 2023 - PRESENT

Lead Hardware Engineering Intern

Wrote documentation on standards for Altium Designer practices and created PCB and Schematic templates. Integrated A365-managed content such as device sheets and design reuse blocks into the company workflow.

Glassboard Product Development Indianapolis, IN

JUNE 2022 - JUNE 2023

Hardware Engineering Intern

Worked on a team to develop new products from customer specifications; Designed Altium Schematics and layouts, prototyped and tested PCB assemblies, surface mount soldering, firmware development, wrote technical documentation, implemented and ran electronic component database for on-hand parts

Curt G. Joa Sheboygan Falls, WI

JUNE 2021 - AUGUST 2021

Electrical Engineering Intern

Communicated across various teams including electricians, mechanical engineers, and mechanics to develop industrial automation machinery in the disposable hygiene space; worked with Allen Bradley PLC, Studio 5000 Logix, Logix Emulate, RSlinx, Factory Talk, Codesys, Cognex Machine Vision Insight explorer, and VMware ESXI for remote HMI systems; troubleshooted electrical panels, setup and tested new devices, and coordinated with project management and customers

PROJECTS AND RESEARCH

- **Open Source Evolvable Hardware Toolkit:** Worked on a team to develop and run experiments using bit-stream evolution on an ICE40 FPGA. Used KiCAD to design a data acquisition board to gather fitness data
- **RSA Hardware Accelerator:** Used hardware-software co-design on Xilinx Vivado to speed up RSA encryption and decryption
- **Pong Implementation:** Used hardware-software co-design on Xilinx Vivado to implement a timer and interrupt-driven pong game on a Zybo Dev board
- **Reduced Instruction Set Processor:** Utilized Model-Sim and Quartus Prime to design and implement both a custom multi-accumulator and load-store reduced instruction set processor in Verilog with supporting documentation in \LaTeX
- **RISC-V ROP Gadget Finder** Worked in a team to create Python scripts to find gadgets from RISC-V binaries
- **Solar Cell:** Created and tested a solar cell in a clean room. RCA clean, Doping, Photo-lithography, Sputtering
- **Camera Controlled Car:** Programmed an MSP432 to control a car with movement recognized by a camera
- **Sensor Terminal:** Relayed values from an I2C gyroscope to a parallel LCD screen with settings adjustment from a UART terminal
- **Piezo Buzzer Music Driver:** Used timers and interrupts to generate a PWM signal for a piezo buzzer; playback was controlled using hardware interrupts on buttons
- **Stepper Motor Driver:** Built a Stepper motor driver that also generated a PWM signal using timers to control a servo motor speed gauge
- **Networking and Home Automation:** Managed a network rack with Network Attached Storage Servers, ESXI Hyper-Visor servers, managed switches, and routers; ran Home Assistant virtual machine that uses Zigbee, and ESP32 modules. Three years of IT experience
- **Portfolio Website:** <https://portfolio-website-ltm.web.app/>

ACTIVITIES AND HONORS

Cyber Security Club Vice President, Treasurer Rose-Hulman Institute of Technology

2021 - PRESENT

National Collegiate Cyber Defense Competition, HACK-A-SAT

Lambda Chi Alpha, Alpha Phi Omega Rose-Hulman Institute of Technology

2023 - PRESENT

Jazz Pianist, Acapella Accompanist Rose-Hulman and Plymouth School District

2017 - PRESENT

Formula SAE, Electrical Team Rose-Hulman Institute of Technology

2020 - 2021

Dean's List Rose-Hulman Institute of Technology

2020 - 2021, 2023

German Student Exchange Program Lived with a host family in Germany and traveled the country

SUMMER OF 2019

FIRST Robotics Team Captain RoboRiot 3418 Programming Team Captain for 3 years

2017 - 2020