

# Jessica C. Harding

jch202@case.edu • (410) 660 - 6708 • jcharding.tech • /in/jessicacharding

## EDUCATION

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**Case Western Reserve University, Case School of Engineering**, Cleveland, OH May 2022  
**B.S./M.S. in Electrical Engineering**, concentration in Circuits and Hardware **GPA: 3.89/4.00**  
**Honors/Awards:** Dean's High Honors, The Electrical Engineering Service Award, Rewrite the Code Fellow, Women in Tech Scholar  
**Scholarships:** Case Alumni Association Scholarship, University Merit Scholarship, OCEA Scholarship  
**Organizations:** Tau Beta Pi Engineering Honor Society, Women in Science and Engineering Roundtable, Institute of Electronics and Electrical Engineers  
**Coursework:** Applied Circuit Design, Data Structures, Designing IoT Edge Devices, Digital Systems Design, Digital Logic Laboratory, Electronic Analysis & Design, Electronic Circuits, Leading People, Semiconductors, Signals & Systems, Women in Orgs  
**Projects:** Analog function generator, Analog solar cell tracker, Verilog logic synthesis calculator, PID motor controller

## SKILLS

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**Prototyping Skills:** Schematic Capture, PCB Layout/Routing, Soldering, 3D Printing, Laser Cutting  
**Software Tools:** Cadence Virtuoso, Mentor Graphics, LTSpice, Altium, Eagle, IAR, CorelDraw, Git, SolidWorks, ModelSim, Linux  
**Coding Languages:** Java, Python, C/C++, Verilog, VHDL, MATLAB, Assembly  
**Licences:** FCC Amateur Radio License: Technician Class

## PROFESSIONAL EXPERIENCE

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**IBM**, Austin, TX

**Sr. Processor and Chip Design Intern**, *developing digital circuits for POWER11 processor* Jan 2021 - Present

- Ran simulations in Cadence Virtuoso to validate a balancing circuit to even the total delay of rise and fall signals
- Modified physical layout parameters to develop a precise, selectable, incremental clock delay for a diagnostic circuit
- Ran physical design synthesis from VHDL to identify and correct layout errors
- Modified physical layout to meet timing, power, and space requirements

**Rockwell Automation**, Mayfield Heights, OH

**Embedded Software Co-Op**, *developed firmware for an industrial I/O module* Jun 2020 - Dec 2020

- Reduced debugging time by writing a Python script to track how and where the product's memory is stored
- Implemented two ADC drivers in C++ to meet layout requirements and facilitate oversampling
- Wrote integration tests to verify functionality such as UART, I2C communication and error handling
- Increased communication speed and reduced CPU utilization by investigating switch to direct memory access(DMA)
- Collaborated with the hardware team to design an input filter that meets signal and safety timing requirements
- Discovered and resolved errors through static analysis to make C++ code MISRA compliant

**Case ECSE Dept**, Cleveland, OH

**Teaching Assistant**, *for Introduction to Circuits general education class* Oct 2019 - May 2020

- Taught multiple 40 person classes proper use of oscilloscopes, function generators, multimeters, and power supplies
- Instructed students on fundamental circuit concepts and their practical applications

**think[box]**, Cleveland, OH

**Prototyping Technician**, *on a makerspace's design and development floor* Aug 2018 - May 2020

- Led team of four in the design of a device that processes an image to be drawn with an XY plotter
- Processed gerber files to route custom printed circuit boards
- Designed and taught courses in circuit design and 3D printing
- Performed troubleshooting on 3D printer and laser cutter malfunctions to determine solutions
- Taught CAD software such as Eagle, CorelDraw, and SolidWorks to achieve design goals

**Terves**, Euclid, OH

**Safety Intern**, *implemented workplace protocols to meet OSHA standards* May 2019 - Aug 2019

- Designed and built a machine to cut experimental filament into pellets for processing
- Implemented a new chemical inventory system that facilitated access to safety data sheets and reduced misplaced chemicals
- Developed a preventative maintenance schedule and instructional documentation for industrial machinery