

# Sabrina N. Herman

Hardware Verification Intern

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## EDUCATION

**Cornell University, College of Engineering, Ithaca, NY | May 2021**

Bachelor of Science, GPA 3.7, Dean's List

Electrical and Computer Engineering with Computer Science minor

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## EXPERIENCE

**IBM | Hardware Verification Intern | Poughkeepsie, NY | June 2020 – Present**

- Created python script to generate driver and monitor for replicating simulation test in an emulation environment
- Utilized VHDL, C++, Python, log files, waveforms, GitHub, and UNIX to write script
- Migrated data, using scripts and IBM tools, from an old website to other spaces, saving data that was both useful and legally required to keep

**Intel | Design Verification Intern | Hudson, MA | May 2019 – Aug 2019**

- Created several tests and sequences in SystemVerilog using UVM in a Linux environment
- Initialized tests via backdoor access, replacing thousands of register writes, significantly decreasing test duration. This benefited my team and higher-level teams
- Demonstrated through tests that federal information processing standards were fulfilled, allowing our product to be sold to government clients

**Cornell Solar Boat Project Team | System Controls Subteam Lead | Sept 2018 – Dec 2019**

- Led team to improve motor system performance, data acquisition, communication systems and speed control
  - Collaborated with executive board to integrate all boat components for National Solar Splash competition
  - Programmed radios in CircuitPython on Raspberry Pis that send/receive data (GPS, speed, voltages, currents) for data acquisition use on solar boat
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## COURSEWORK & SKILLS

### Courses

Digital Logic • Computer Architecture • Computer Networks • Object Oriented Programming and Data Structures  
Embedded Operating Systems • Intelligent Physical Systems • Functional Programming • Internet of Things  
Complex Digital ASIC Design

### Skills

SystemVerilog, Python, C, Java, UVM, Linux, Arduino, Raspberry Pi, Microsoft Office, Spanish

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## ENGINEERING PROJECTS

**Music Motion | Embedded Operating Systems | Fall 2020**

- Programmed Music Motion game in Python on a Raspberry Pi with three main components: PyGame GUI for user interaction, accelerometers to detect dance movements, and generated song movements for users to follow

**Maze Solving Robot | Intelligent Physical Systems | Fall 2019**

- Programmed Arduino based robot with servo motors and IR sensors to follow lines, avoid walls and other robots, and perform a depth first search of the maze
- Displayed real-time maze exploration using radios to send robot data to a VGA monitor programmed with Verilog

**Multicore Processor | Computer Architecture | Fall 2019**

- Programmed a multicore processor in SystemVerilog using a Linux environment, utilizing multiple pipelined processors and caches for instructions and data

**Bop-It | Embedded Systems | Spring 2019**

- Programmed Bop-It in C on FRDM K64F board. Utilized LEDs, pushbuttons, accelerometer and magnetometer to enable users to “push”, “twist” and “shake” before the timer expires