Leanna Pancoast

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Education

ECE BS | 2015 | CARNEGIE MELLON UNIVERSITY
ECE MS | 2020 | CORNELL UNIVERISTY

Experience

FOUNDER AND DEVELOPER | SOLID MIRAGE | 2023 – PRESENT

- Electrical, firmware, and software development for LED invites and decorations
  - Designed responsive wedding invitation – touch sensitive art PCB that lights up
  - Web developed tool to assist firmware for LED location and color control
  - 3D modeled and printed enclosures for electronics
  - I2C to talk to RFID reader to make interactive seating chart

HARDWARE ENGINEER CONSULTANT | RONDO ENERGY | 2023

- Electrical, firmware, and software consultant for a complex motor system to bend heater wire
  - Designed and tested PCBs for motor control and serial communication
  - Instructed on software best-practices for C code readability and management
- Developed C/Arduino code for Teensy microcontroller to control motors and read analog sensors
  - Made Python GUI to let technicians run system without command line interface

FIRMWARE ENGINEER | OUTWARD INC | 2021 – 2023

- Wrote bare-metal C firmware for STM32 ARM Cortex-M4 microcontrollers coordinated LEDs, sensors, motors, and cameras with I2C, SPI, USB protocols to automate pictures of furniture
  - Created bootloader to allow remote updates in the field
  - Wrote drivers from datasheets to talk to sensors over I2C, SPI
  - Debugged new PCBoards with voltmeter, oscilloscope, logic analyzer
- Coordinated software, mechanical, and electrical engineers to make a new camera zoom controller

HEALTHCARE RESEARCH ENGINEER | NYU GROSSMAN SCHOOL OF MEDICINE | 2020 – 2021

- Designed and fabricated wireless digital sensor system to capture patient motion inside the magnetic resonance imaging (MRI) system
  - Wrote drivers for different sensors to work with variety of wireless microcontrollers to test in the strong magnetic field inside of an MRI bore
  - Made Linux-Raspberry Pi MQTT server to talk with in-bore ESP32 client connected to an accelerometer over SPI and log information over time
  - https://www.opensourceimaging.org/project/mri-compatible-wireless-sensors/

HEALTHCARE HARDWARE ENGINEER | IBM RESEARCH | 2018 – 2019

- Miniaturized and increased usability of healthcare-focused microbatteries and fingernail sensors
  - Android custom app and database to interface with custom point of care device over Bluetooth

MEMS RESEARCHER | CORNELL | 2015 – 2018

- Full development of MEMS devices: design, fabrication, and testing in Cornell Nanofabrication Facility
  - Fabricated devices from silicon wafer in cleanroom with lithography, evaporation, dry/wet etching
- Automated testing by coordinating instruments (voltage generator, oscilloscope, source measurement unit, multimeter) over GPIB protocol using PyVISA and MATLAB

Skills

- C, Python, MATLAB, SQL, HTML, JavaScript, C#, REST

Projects

SPOTIFY GENRE GRABBER https://github.com/lapricap/beatsaber_spotipy/
- Use Spotify REST API to get genre from Beat Saber game playlist

PERSONAL WEBSITE https://leannapancoast.com/
- Use React to create web page to showcase older projects