Daniel Matthew - Engineering Resume

Please visit Daniel's Maker Blog (https://drmatthew.org/) or follow hyperlinks for additional project information, videos and images.

Employed Experience

2024 Summer Paid Intern at Turner Engineering Corp.

Projects completed over 5 week employment:

- Test Asset Manager
    - Updated inventory asset net worth, and location documentation
    - Storage hardware modifications and project renders

- Radiated Emissions Testing
    - Antenna calibration
    - Baseline testing data
    - State file, amplitude correction and limit line configuration on N9010B Signal Analyzer
    - Prepared Antennas and testing equipment shipped to / from job site

- Bus Communications Project
    - Created product proposal 3D renders
    - Designed wiring schematics and CAD files used for initial prototypes

Personal Project Highlights

Braille Board Mechanical Display

- Developing a more affordable alternative to typical piezoelectric braille displays. My design, inspired by Vijay Varada's Hackaday submission, utilizes electromagnets and SLA Resin 3D printed components.

Custom leather purse

- Custom designed, and handcrafted in quality leather. This project was a milestone in my leatherworking hobby, demonstrating a large improvement in craftsmanship and a mastery of many techniques.

Electric Scooter Lap Timer

- Massive seven segment display from hundreds of hand soldered LEDs. Using an arduino ultrasonic distance sensor at the start / finish line lap times are recorded and displayed to riders.

Physics catapult

- An obsessive optimization problem. This physics engineering challenge tested my skills in mechanical design, Fusion 360, and 3D printing.

Home climbing wall

- A large scale construction endeavor. I built a climbing wall to nurture my new found interest in rock climbing, but more importantly to prove I could plan and complete something I previously thought too extensive.

FDM Extruder Flow Compensation

- Developing methods for on-board instantaneous flow rate measurement to eliminate common extruder inconsistencies and improve tolerances for 3D printed parts.