Hannah Brooks

Electrical Design Engineer

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SUMMARY

Electrical design engineer with 4 years of experience designing boards, panels and wiring for industrial controls and process instruments. Draws schematics and lays out boards in Altium Designer, documents cable and panel assemblies in AutoCAD, and leads bench troubleshooting with oscilloscopes. Self-motivated and comfortable owning a design from concept to production release.

SKILLS

- **Altium Designer**
- **Schematics**
- **AutoCAD**
- **Oscilloscopes**
- **I2C**
- **Troubleshooting**
- **Microsoft Excel**
- **Problem-Solving**
- **Attention to Detail**
- **Communication Skills**

EXPERIENCE

Electrical Design Engineer 09/2024 - Present

Mississippi River Instruments Minneapolis, MN

Maker of flow and pressure instruments for food and pharmaceutical plants.

- Design schematics and 4-layer boards in Altium Designer for **3** transmitter lines selling 20,000 units a year.
- Integrate I2C sensor interfaces and isolated 4-20 mA outputs that meet a 0.1% of span accuracy target.
- Lead troubleshooting of early production failures with oscilloscopes, cutting yield loss from 6% to 1.5%.
- Document wiring harnesses and panel builds in AutoCAD for the contract manufacturer, 35 drawings to date.

Associate Electrical Engineer 06/2022 - 08/2024

Twin Cities Automation St. Paul, MN

Integrator of packaging line control systems.

- Designed control panel schematics for 22 packaging lines with PLCs, VFDs and safety relays.
- Tested panels at the factory and on site, closing punch-list items within 2 days on average.
- Calculated wire sizes, heat loads and enclosure ratings in Microsoft Excel for every panel build.
- Wrote test procedures and operator manuals for 10 customer handovers.

Electrical Engineering Co-op 05/2021 - 12/2021

Northstar Power Products Bloomington, MN

Co-op with a maker of industrial power supplies.

- Ran efficiency and thermal tests on 15 power supply prototypes and recorded the data for design reviews.
- Updated schematics and parts lists after each engineering change.
- Built a relay-switched test fixture that let one technician check 4 units at a time.
- Measured ripple and transient response against datasheet limits on 6 supply designs.

EDUCATION

Bachelor of Science 05/2022

University of Minnesota Twin Cities Minneapolis, MN

Electrical Engineering

CERTIFICATES

Fundamentals of Engineering (FE) Exam - Passed

NCEES

07/2022