

Electrical Engineer

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Summary

Dedicated Electrical Engineer proficient in schematic design, panel design, and electrical design integration using Zuken E3, AutoCAD Electrical, and Eagle. Possesses foundational knowledge of PLCs, including Allen-Bradley (AB) and Wago, and is adept at designing stand-alone and NMEA/IEC-compliant systems for industrial applications. Demonstrates strong expertise in power distribution and electrical wiring. Additionally, well-versed in database management (MySQL) and software development (Java, HTML, CSS, Figma), with basic knowledge of Power BI. A problem-solver with a collaborative mindset, eager to contribute to innovative electrical and automation projects.

Skills

- Schematic Design
- Panel Design
- Cable Selectoin
- PLC commuication protocols
- Drives
- Zuken E3
- AutoCAD electrical
- Basic PowerBi & MySQL
- Java
- HTML CSS & Figma

Experience

BARRY WEHMILLER INDIA

Intern Electrical Designer

Chennai, TN,

2024(Aug) - Present

Managed Packing Machinery electrical Design conversion (ANSI TO IEC).

- Converted electrical schematics and panel layout from ANSI to IEC standards, ensuring compliance with IEC regulations while optimizing system design using Zuken E3 CAD.
- Integrated and configured servo motors, drives, and PLC communication protocols (EtherNet/IP, PROFIBUS, Modbus) to enhance automation performance.
- Worked with senior engineers to improve schematics for Terminal plan, motor drives, control panels, safety circuits, part list, cable schedule ensuring IEC and NEMA compliance.

TATA & FORGE

Intern Data Visualization

virtual internship

2024(Feb) - 2024(Mar)

Interned at Tata , specializing in data visualization with Power BI.

- Interned at Tata Consultancy Services, specializing in data visualization to support strategic decision-making.
- Created dynamic visualizations with Power BI, translating complex data into actionable insights.
- Collaborated cross-functionally to deliver impactful solutions, enhancing business intelligence capabilities.

ENTHU TECHNOLOGY

Intern PCB Designer

Coimbatore, TN

2022(Aug) - 2022(Sep)

Managed PCB layout design, schematic capture, and signal integrity analysis to enhance electronic product development.

- Specializing in PCB layout design, schematic capture, and signal integrity analysis to support electronic product development.
- Focused on improving PCB design quality through innovative approaches and best practices.
- Committed to continuous improvement and fostering innovation in electronic design.

Education

SRI SHAKTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

BE . ELECTRICAL AND ELECTRONICS ENGINEERING : CGPA - 7.8

Coimbatore, TN

2021 - 2025

MALCO VIDYALAYA MATRIC HER SEC SCHOOL

HIGHER SECONDARY : PERCENTAGE - 85.01%

Salem, TN

2020 - 2021

MALCO VIDYALAYA MATRIC HER SEC SCHOOL

SSLC : PERCENTAGE - 77.8%

Salem, TN

2018 - 2019

CERTIFICATION

AUTOCAD ELECTRICAL - AUTODESK

DATA VISUALIZATION (POWER BI) - TATA FORGE

FIGMA - GUVI

PROJECTS

Transformer Less Hybrid Active Filter

Harmonic Mitigation

- Developed a transformer-less hybrid active filter to enhancing energy efficiency and reducing harmonic currents.
- Designed and implemented a hybrid filtering system combining a passive filter tuned to the seventh harmonic with a three-level PWM active filter.
- Validated stable voltage balancing and effective harmonic mitigation through theoretical analysis and experimental testing across various load conditions.

PEDELECS

PEDAL ELECTRIC CYCLE

- Designed and implemented a hybrid traction system for Electric Vehicles (EVs) integrating batteries and a dynamo to optimize energy storage and retrieval, enhancing vehicle autonomy and efficiency.
- Developed and analyzed a control strategy for energy management, improving system performance by efficiently distributing power between the battery and the dynamo based on real-time energy consumption.
- Explored regenerative braking principles by utilizing a DC motor to convert mechanical energy from the wheels back into electrical energy, enabling battery recharging during motion and enhancing overall energy efficiency.

LINKS

LinkedIn - <https://www.linkedin.com/in/nirmal-kumar-r-b4467b235/>

Github - <https://github.com/Nirmalkumar14>