

# ALI HESHAM RAZA

## EDUCATION

JUNE 2025

ALIGARH MUSLIM UNIVERSITY  
B.Tech Program (Electrical Engineering)

## EXPERIENCE & PROJECTS

2022	<div><b>Low Voltage Systems Engineer</b> ZHCET Formula Racing Club</div> <div>Designed and implemented the wiring harness for the Formula Student Electric Vehicle, ensuring efficient power distribution and signal integrity. Conducted Failure Mode and Effects Analysis (FMEA) to identify potential failure points and develop mitigation strategies, enhancing the safety and reliability of the vehicle. Developed the shutdown circuit to ensure the safe operation of the vehicle during testing and competition scenarios. Led a cross-functional team, coordinating tasks and fostering collaboration to achieve project goals within tight deadlines.</div>
2023	<div><b>Project Trainee</b> National Thermal Power Corporation Ltd.</div> <div>Gained hands-on experience with a <b>660 MW supercritical thermal power unit</b>, enhancing my understanding of the mechanics and operations of thermal power plants.  Observed and analyzed the power generation process, including fuel handling, steam generation, and turbine operation, to understand the complete power cycle.  Assisted in routine maintenance and operational monitoring, fostering a solid foundation in power plant safety protocols and efficiency optimization</div>
2024	<div><b>TODAY WE WILL LEARN</b> GitHub Repository</div> <div>Developed a dynamic website that enables users to share thoughts and facts with the community. Implemented interactive features allowing users to upvote or downvote shared content, enhancing engagement and visibility of popular posts. Designed and built the front-end using <b>HTML</b>, <b>CSS</b>, and <b>React.js</b>, ensuring a responsive layout for seamless user experience across devices. Utilized <b>CSS Grids</b> to create a mobile-responsive design, facilitating easy interaction on any device.</div>
2025	<div><b>Regression Analysis for the Prediction of Dielectric Breakdown of Transformer Insulating Oil</b> Aligarh Muslim University</div> <div>Developed a predictive model to estimate dielectric breakdown strength based on oil properties (temperature, moisture, contaminants). Employed multiple regression models to identify relationships between independent variables and breakdown strength. Implemented data preprocessing and feature selection techniques; evaluated models using MAE and R<sup>2</sup> metrics. Utilized enhanced statistical analysis and machine learning techniques to improve the reliability and safety of transformers Successfully created a reliable predictive model that aids in the assessment of transformer oil quality, contributing to improved transformer reliability and safety.</div>

## SKILLS

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**Languages:** JavaScript, C/C++, Python, HTML/CSS

**Tools:** Git/GitHub, Unix Shell, Github-action, Matlab

**Frameworks & Technologies:** React.js, Node.js, MongoDB, Tailwind CSS, Bootstrap

**IoT Technology:** Arduino, Proteus

**Soft Skills:** Communication, Teamwork, Leadership, Problem-Solving

## CERTIFICATIONS & COURSES

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- MATLAB Onramp by MathWorks Training Services
- C++ Code Like you are in MATRIX: Mastering C++ (OCSALY ACADEMY)
- Renewable Energy and Green Building Entrepreneurship (Coursera)
- Power System Protection and Automation (with SCADA and Smart Grids)
- Certified Electrical Safety Compliance Professional (CESCP)
- NEBOSH International Certificate in Oil and Gas Safety
- Power Electronics Specialization (Coursera, University of Colorado Boulder)
- Introduction to Battery-Management Systems (Coursera)

## AREA OF EXPERTISE

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- Low Voltage Systems Design
- Power Generation and Distribution
- Data Analysis and Regression Modeling
- Machine Learning and Predictive Analytics
- Project Management and Team Leadership
- Problem Solving and Critical Thinking
- Technical Documentation and Reporting