NEHARIKA KOTAMARAJU

+91-9492079732
neharika.k2024@gmail.com
www.linkedin.com/in/neharika-k-858a94256
https://github.com/neharika950

EDUCATION

Amrita Vishwa Vidyapeetham,Coimbatore | CGPA:7.07 **2022-2026**
Bachelor of Technology (B.Tech) in Electrical and Electronics Engineering
- Workshops Attended: Data acquisition using IoT,Raspberry Pi,Docker,Computer Vision

Happy Valley School, Andhra Pradesh **2020-2022**
Senior Secondary | CBSE | 86%

WORK EXPERIENCE

L&T (Larsen & Toubro) **Nov 24 - Dec 24**
Power Electronics Intern
- Conducted harmonic analysis on power converters (AC-DC, DC-AC, and DC-DC) for **distribution systems** to improve efficiency and reliability.
- Implemented **harmonic mitigation strategies** using MATLAB and Simulink to enhance power quality and system reliability.

PROJECTS

Smart Energy Conservation System

- **Enhanced** a smart energy conservation system using the **ESP32 microcontroller** to monitor and optimize real-time energy consumption.
- **Incorporated** sensors and machine learning algorithms to predict energy usage and provide conservation recommendations, **improving efficiency** through automated device control.

Planetary Rover Health Monitoring System

- Developed a hybrid system combining **Fuzzy Logic and Artificial Neural Networks (ANN)** for real-time health monitoring and failure prediction of Mars rovers, **achieving 97% accuracy** in battery Remaining Useful Life (RUL) prediction. Integrated MATLAB Fuzzy Logic Designer and Simulink for environmental risk assessment and system simulation.

Load Flow Analysis of Wind Power Plant using matlab

- Performed **load flow analysis** of a wind power plant integrated into a distribution network.
- Evaluated the impact of **wind power generation** on voltage profile, power losses, and reactive power flow under varying wind speed conditions.

Predictive Maintenance and Fault Analysis in Power Transformers

- Built a machine learning model for **predictive maintenance** and **fault detection** in power transformers using Python and MATLAB, applying various machine learning techniques.

SKILLS

Programming Languages: Python, MATLAB, C, C++
Tools & Technologies: Arduino IDE, ESP32 IDE, MPLAB IDE, LTspice,MATLAB, Simulink, ETAP
Technical Skills: Power Electronics,Electrical Machines,Smart Grid,Embedded Systems,Internet of Things (IoT) Machine Learning,Artificial Intelligence (AI), Microcontrollers

CERTIFICATIONS AND ACHIEVEMENTS

- Accepted Paper: International Conference on Emerging Smart Computing and Informatics (ESCI 2025), IEEE Xplore (To be published).
- Achieved **Top 10** Rank at the **Intel IoT** Hackathon
- Achieved **Top 5% Topper recognition** in the NPTEL online certification course on Smart Grid
- Embedded System Design with ARM - **NPTEL**