VARSHINI RAMALINGAM

B.Tech in Electrical and Electronics Engineering (Pursuing)

8148147119 varshini31ramalingam@gmail.com

Tiruchirapalli

EDUCATION

-B.Tech in Electrical and Electronics Engineering (Pursuing)
CGPA: 7.86

-Minor Degree in Artificial Intelligence and Machine Learning (Pursuing)

2022-2026

Courses:

Introduction to AI and Data Science, Python for AI, Mathematics for AI

Class 1 to 12

Kamala Niketan Montessori School

JEE Preparation-Integrated Coaching

Seekers Coaching Institute

PERCENTILE: 88%

SOFT SKILLS

- Collaboration
- Ethical Awareness
- Creativity
- Leadership
- Time Management
- Continuous Learning

TECHNICAL SKILLS

Power Systems
Knowledge of power distribution, grid systems, transformers.

Control Systems
State Variable Analysis, stability improvements, and analysis of non-linear system behavior.

Renewable Energy

Battery Management Systems

Electrical vehicle Applications

Simulation Software
MATLAB, Simulink, ETAP for modeling and simulation of electrical systems.
,Ansys , LTspice.

Programming
C, C++, Python, and MATLAB for algorithm development, simulations.

PROFILE

Motivated undergraduate student pursuing Electrical and Electronics Engineering with a great passion for challenges. Keen on hands-on and application-based projects in any subject and dedicated to finding solutions, no matter the obstacles, while thriving in collaborative team environments.

WORK EXPERIENCE

Battery Management Systems & Electrical Vehicle
07/2024

-Research paper and Literature review on Battery Monitoring by Data-Driven Method.

-Developed an improved dual Gaussian Process Regression (GPR) model to estimate State of Health (SOH) and Remaining Useful Life (RUL) of batteries.

-Applied Grey Correlation Analysis to extract key parameters, combining both approaches for enhanced accuracy.

-Evaluated three GPR models, achieving 95% accuracy with the third model while analyzing associated errors.

Magnetic Field Localization for Smart Charging
10/202411/2024

.-Research in progress under the guidance of a professor from BITS Pilani, Dubai, since the 5th semester.

Advanced Control Systems
10/2024-11/2024

-Conducted a literature review and simulated a 3-phase grid-connected inverter in MATLAB using DQ control (Synchronous Reference Frame Theory) for grid synchronization and control analysis.

Electrical Energy Systems
11/2024-12/2024

-Conducted a literature review and simulated contingency analysis for a 9-bus electrical network using ETAP and MATLAB.

Analog Integrated Circuits
10/2023-11/2023

-Designed an Op-Amp-Based Line Follower Robot using IR LEDs and photodiodes to detect surface reflectance, enabling navigation on lighter surfaces and halting on darker ones.

AI-Based Diet Recommendation Model
03/2024-05/2024

-Developed a personalized diet recommendation system using BMI-based user input and machine learning algorithms (SVC, Gaussian Regression, Decision Tree), achieving 85% accuracy, with data analysis via heatmaps and box plots as part of a minor in AI/ML.

Microcontroller and Applications
12/2024-01/2025

-Developed a wireless smart glove prototype using flex sensors, Arduino Nano, and ESP Wi-Fi module for real-time monitoring and communication assistance for immobility patients via the Blynk app.

LANGUAGE

- English
- Tamil
- Kanada (Limited working proficiency)