Saiyad Ali Rapheeque

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Education

Mar Athanasius College Of Engineering — Kothamangalam, Kerala
Bachelor of Technology in Electrical and Electronics Engineering — *Aug. 2020 – June 2024* ***CGPA: 8.81***

GBHSS — Peruva, Kerala
Science — *July 2017 – May 2019* ***Percent: 96.75***

St. Joseph'S EM School — Keezhoor, Kerala
CBSE — *June 2016 – May 2017* ***CGPA: 10.00***

Experience

Project Lead — Nov.2022 – March 2023
Light The Lives, IEEE HTB Project — *Ernakulam, Kerala*

- Conducted a survey to assess the electricity requirements of residents in the tribal colony of Uriampetty.
- Led and coordinated a team of 43 volunteers to successfully implement a photovoltaic (PV) system.
- Designed and executed the installation of an off-grid solar PV systems, catering to the energy requirements of 40 beneficiaries within the tribal colony of Uriampetty.

Projects

SPV Array Fault Diagnosis | *Python, Google Colab, Matlab/SIMULINK, LTspice* — Nov. 2023 – Present

- Designed and simulated Fault Detection Electronic Circuit (FDEC) in LTspice for precise fault detection in SPV arrays, optimizing system reliability.
- Utilized MATLAB/Simulink to simulate solar PV faults, enabling thorough fault analysis for effective mitigation strategies.
- Developed ML models in Python on Google Colab for fault analysis, ensuring accurate fault classification and proactive system monitoring.

PMSM sensorless rotor position detection | *Python, Google Colab, Matlab/SIMULINK* — Jun. 2023 – Oct. 2023

- Employed MATLAB/Simulink for PMSM modeling, facilitating accurate analysis of motor behavior and control strategy optimization.
- Implemented FOC and HFI techniques in MATLAB/Simulink for precise IPMSM control under dynamic conditions.
- Developed ML models in Python on Google Colab for rotor position detection.

LoComm | *Arduino, ESP32, LoraWAN , HTML/CSS* — Sept. 2022 – Nov. 2022

- Developed LoRa-based ground station with ESP32, bridging communication gaps in remote areas.
- Designed user-friendly interface for villagers to send alerts via local webpage, utilizing LoRa for efficient data transmission in challenging terrains.

AgriSense | *Arduino, C, NodeRed, ESP8266* — May 2022 – June 2022

- Developed a solution for Automatic Irrigation Scheduling,Monitoring Critical Soil and Environment Parameters for precision farming through Sensor Based Distributed Micro Environment Monitoring and Management

Technical Skills

Languages: Matlab/SIMULINK, C, Java, Python, HTML/CSS
Developer Tools: Git, Google Collab, VS Code, PyCharm, Eclipse

Achievements

- Achieved third prize in the IEEE IAS CMD Humanitarian Contest 2023 and received an invitation to attend the 2023 IEEE IAS Annual Meeting in Tennessee, USA
- Achieved Best innovation project award in the 'Hackify 2024' Hackathon organized by IEDC MACE in association with KeyValue Software Systems
- Received IEEE Kerala Section Outstanding Humanitarian Student Volunteer 2023 Award
- First prize in PROCOMM'22 conducted by IEEE ComSoc Kerala Chapter
- Second prize in the HACKATLY'22 hackathon organized by IEDC TLY in association with Mizone