

FAIZ AHMED SULTAN

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Data Engineer having experience of 3 years in generating data driven automated insights. Proficient in design verification and validation of renewable plant's performance and developing APM products. Extensive remote performance evaluation and benchmarking and on-site R&D activities.

Academic Credentials

INSTITUTE OF BUSINESS ADMINISTRATION

Master's in business administration

CGPA: 3.56 / 4.00

2022-Present

NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Bachelor's in electrical engineering.

CGPA: 3.94 / 4.0

2016-2020

Technical Skills

Languages: Python, JavaScript, SQL, HTML, CSS, JSON, C++, MATLAB,

Frameworks: Django

Cloud and Others: AWS, SQL Server, Linux Machines (EC2), Lambda, API Gateway, Cognito

Database: Elastic Search, Dynamo Db, Redshift, Mem-Cache

Certifications

AWS: AWS Certified Cloud Practitioner [Badge](#)

AWS: AWS re/Start Graduate [Badge](#)

Coursera: Python A-Z, Machine Learning A-Z.

Professional Experience

REON Energy Limited **Data Engineer:** (Jan 2023 – cont.)

- Integrated DynamoDB with other AWS services, such as Lambda, S3, and API Gateway, to build end-to-end solutions.
- Created and managed Amazon S3 buckets to store and organize data of assets.
- Spearheaded the creation of data visualizations and dashboards to provide real-time insights into data trends and anomalies.
- Developed an automated email system to provide real-time updates on the condition of various sites.
- Developed an algorithm to forecast the site downtime (40% accuracy) based on the available energy sources using historical and machine learning models (Piece wise linear model).
- Modeled a calculator for the sizing of solar panels and batteries based on input parameters such as load, solar output, and generator size. The model calculates the optimized solar size (kW), battery size (Ah), and determines the amount of solar curtailed for the entire year.
- Developed a model that optimizes the number of gensets running in a system with solar installation.
- Implemented a Digital twin method to create a virtual replica of a physical site, providing a dynamic simulation environment that mimics the behavior and conditions of the actual site, allowing for real-time analysis and informative insights.
- Developed an algorithm that calculates the State-of-Health (SoH) (75% accuracy rate) of batteries used in a site's energy storage system.

FND Consultancy: **Design Engineer:** (Dec 2021 – Dec 2022.)

- Designing of ELV system i.e., Fire alarm system, access control system, general and emergency Lighting, and lightning protection systems.
- Prepared and analyzed BOQ's, Technical submittals, and shop drawings for different projects.
- Perform/ attended FAT of LV panels and DB's, detailed inspection and checking of interlockings, control logics etc.

National Refinery Limited: **Trainee Senior Management:** (Feb 2021 – Dec 2021)

- Carrying out operation of Electrical Switchgears, in case of a Power failure, to restore the power to the units within safe time.
- Inventory Management on SAP and preparing maintenance orders, resource documents and maintenance schedules on SAP.
- Develop the technical data, drawing, and system for all regular and customized projects for all OEM's.

Projects

Project 1: Automated Email System for Site Condition Reporting

In this project, an automated email system was developed to provide real-time updates on the condition of various sites. The system processes data related to site conditions and generates emails containing information. The emails are designed to keep stakeholders informed about any issues or improvements.

Project 2: Site Downtime Forecasting with 40% Accuracy

This project focused on forecasting site downtime. Various methods, including historical analysis and machine learning models, were employed to predict potential downtimes. Using machine learning algorithms (SVM, Piece-wise liner model), the model achieved a 40% accuracy rate in predicting site downtimes.

Project 3: Power Planning Model for Solar and Battery Optimization

In this project, a power planning model was developed to optimize the sizing of solar panels and batteries based on input parameters such as load, solar output, and generator size. The model calculates the optimized solar size (kW), battery size (Ah), and determines the amount of solar curtailed for the entire year. This model helps in calculating sizes of asset fast with greater accuracy.

Project 4: Genset Optimization Model for Power Demand Stability

The objective of this project was to develop a model that optimizes the number of gensets running in a system with solar installation. The model evaluates the power demand and assesses the need for Battery Energy Storage Systems (BESS) to maintain system stability. By considering the interplay between solar energy, generators, and BESS, the model determines the optimal configuration to meet power demand efficiently. This contributes to enhanced reliability and stability of the power system in the presence of renewable energy sources.

Project 5: Digital Twin Development for Site Simulation and Analysis

In this project, a digital twin method was implemented to create a virtual replica of a physical site, providing a dynamic simulation environment. The digital twin mimics the behavior and conditions of the actual site, allowing for real-time analysis and informative insights. The project aimed to enhance decision-making processes and operational efficiency by leveraging the capabilities of a digital twin.

Project 6: State-of-Health (SoH) Prediction Model for Battery Health Monitoring

This project focuses on developing a model for calculating the State-of-Health (SoH) of batteries used in a site's energy storage system. The SoH is a crucial indicator of a battery's health, providing insights into its overall condition and performance degradation over time. By implementing this model, stakeholders can receive timely information about battery health, enabling proactive actions to enhance site performance.

Project 7: Electrical Wire Harness (Bar code Scanner)

Designed a scanning device (Bar code scanner) that eliminated the possibility of an incorrect relay module to be attached on a critical point in fuse box of a harness by decoding the bar codes.

Project 8: Design of Tactile Feedback Control of Flight Simulator (FINAL YEAR PROJECT)

Our team designed a virtual environment that contains Buttons, Cubes, and a Virtual Hand
Upon interaction with Virtual Object, it gives you the sense of touch.