Subhankar Bhattacharjee

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subhankarb98.github.io/portfolio/

EDUCATION

- B.E. Chemical Engineering – Jadavpur University 2016-2020
- M.Tech Chemical Engineering – Indian Institute of Technology, Kharagpur 2021-2023

TECHNICAL SKILLS

- **Programming**: Python, Java, C, SQL, Flask, html, CSS
- **Data Analytics**: NumPy, pandas, seaborn, matplotlib, plotly
- **Machine Learning & Data Science**: Decision Trees, LSTM, CNN, TensorFlow, Transformers (BERT, GPT)

SOFT SKILLSai

Communication | Problem solving | Time management | Team leadership | Presentation | Creativity | Adaptability

WORK EXPERIENCE

- **Senior Engineer - Lime.ai (Bengaluru, Karnataka)** 2023-
  - **Fast Charging** – developed an algorithm that generates fast charging profiles for different Li-ion cells reducing time by 50% while keeping the degradation at a minimum
  - **Physics Informed Neural Network** – created a time series forecasting neural network which predicts the voltage of a Li-ion cell in real time with an accuracy of 97%, using LSTM and RNN layers, trained on a large amount of raw battery data combined with physics-based model outputs (pybamm)
  - **Chat bot** – implemented an artificially intelligent chatbot using existing transformers like GPT-2, Llama-3 and Llama-3-instruct which has been fine-tuned in the domain of Li-ion cells, BMS and electric vehicles
  - **SOH algorithms** – modelled the State-of-Health of a battery, with an accuracy of 93%, using a polynomial regression machine learning model extracting features from quantifiable degradation modes like LAM and LLI

INTERNSHIPS

- **Indian Institute of Technology, Guwahati** 2019
  - Built a packed bed milli channel reactor during summer internship on “Copper (II) adsorption on reduced graphene oxide-based composite in a milli channel based packed bed reactor”
  - Performed the hydrodynamics analysis of the flow through the channel and developed parameter correlations

PROJECTS

- **Chest X-ray (Image classification)**
  - Extracted the data set of more than 5000 Chest X-ray pictures from Kaggle segregated into two types - Normal and Pneumonia
  - Conducted data analysis and visualization using Matplotlib and Seaborn libraries to study the distribution of data
  - Created and trained a CNN model with an accuracy of 95% which successfully classified the test images as normal or pneumonia
- **Modelling and Optimization of Benzol Recovery Unit at Tata Steel using Aspen (M.Tech Project)**
  - Simulated the entire Benzol Recovery Unit at the Tata Steel plant and validated results
  - Studying the dependency of the results on fluid packages and estimating the efficiencies of the stages in the Absorber and Stripper columns
  - Optimization of the operational parameters involved in the Recovery Unit to increase the yield of benzol per dry coal mass using Aspen

CERTIFICATIONS

Python for Machine Learning and Data Science Masterclass (Udemy) | Neutral Networks and Deep Learning, Andrew Ng (Coursera) | Introduction to SQL (Simplilearn) | Object Oriented Programming in Java, Duke University (Coursera)

INTERESTS

- Football – captained the departmental team in UG and part of the institute team in PG
- Music – love listening to classic rock music and play the guitar as a hobby