Saurav Bhowmick

Results-driven engineer with a strong foundation in machine learning, predictive analytics, and data science. Currently pursuing MSc in Renewable Energy and Data Engineering, with hands-on experience in time series analysis, regression models, and categorical prediction. Seeking opportunities to leverage data engineering and ML expertise to drive innovative solutions in predictive AI.

Work Experience

Research Assistant

Institute for Sustainable Energy system (Hochschule Offenburg)

Jan 2024 - Present

Project Name – Integrale Forschung Energie für Elektromobilität: Vom Modell zur Anwendung (iFEMA) [Integral research energy for electromobility: from model to application]

- Worked on Beckhoff to publish messages from PLC to MQTT server.
- Successfully developed code in Python to publish messages from the PLC to the MQTT server and send messages from MQTT server to the PLC.
- Successfully developed code in Python to record the messages from the PLC and MQTT server with topic to MySQL.
- Automated the process of creation of Node-RED JSON file.

Software Engineer

Volkswagen Group Technology Solutions India Pvt. Ltd

Mar 2021 - Sep 2023

Project Name – Group Package Factory (GPF)

- Worked on Robotic Process Automation (Automation Anywhere).
- Automated tasks in line with the project.
- Worked on Application packaging through MSI technology
- Worked on Application packaging, using InstallShield.
- Automating project related tasks through PowerShell.
- Worked on Intune in Azure as a Proof of Concept (POC) to automate the deployment of applications through cloud.
- Worked as a Verification buddy for Quality Analysts to conform the quality of work with the requirements of the clients.
- Software – PowerShell | Install Shield | Azure.

Educational Background

MSc. Renewable Energy and Data Engineering

Hochschule Offenburg, Germany

Sep 2023 - Present

Focus: Energy Economics | Power Plants and Power Systems | Energy Storage, Conversion and Transport | Energy Usage in Industrial Processes | Energy Data Engineering | Renewable Energy Systems | Operations Research in Energy Economics | Power Electronics and Grid Control | Grid Operation, Analysis, Planning and Communication.

Contact

Sankt Martin Str.73
831-73-06-03-0
Offenburg, Deutschland

(+49) 15237177341

bhowmick.saurav@outlook.com

https://www.linkedin.com/in/saurav-bhowmick-737507102/

https://github.com/SauravBhowmick/

Skills

Technical Skills

- Machine learning (statsmodels, scikit-learn, tensorflow)
- Automating tools
- PowerShell Scripting

Tools/Sofware

- C
- MATLAB
- Python
- Azure
- Install Shield
- Automation Anywhere
- MySQL
- Node-RED
- Beckhoff
- Basic JAVA
- PowerShell
- Git
- Ansys Fluent
- Abaqus
- Ansys FEA
- Teamcenter
- 3Dexperience V6
- AutoCAD
- Hyperworks
- Catia-V5

Soft Skills

- Critical Thinking
- Time Management
- Creative and Innovative thinking
- Team Management
- Team Spirit
- Practical and Analytical Thinking
- Requirement gathering and planning

Achievements

Best Debutant Award, 2019

- Recognition Award for exceptional performance in a short span in Volkswagen Group Technology Solutions India Pvt. Ltd
- Successfully met the KPIs

Best Innovation Award, 2019

- Recognition Award to exhibit “Out of the Box” thinking and creativity in line with business and company goals in Volkswagen Group Technology Solutions India Pvt. Ltd.
- Automated manual task and reduced efforts by 20%

Educational Background

Bachelor of Engineering in Mechanical Engineering

Army Institute of Technology, Pune University, India
Jul 2014 - Jun 2018
Focus: Manufacturing | Strength of Materials | Thermodynamics | Theory of Machines | Dynamics of Machinery | Product Design | Material Science | Industrial Engineering | Robotics | Design of Machine | I.C. Engines.
Final Grade: 68.5%

Higher Secondary

Army Public School, Central Board of Secondary Education (CBSE), Pune, India
Apr 2013 - Apr 2014
Focus: Physics | Chemistry | Mathematics | Physical Education | English
Final Grade: 86 %

Projects & Internships

Hochschule Offenburg

Oct 2023 - Present

Categorical prediction | Second Semester Project-2
Software: Python
Libraries: Statsmodels, Scikit-Learn, Pandas, Numpy, Seaborn, Matplotlib

- Exploratory data analysis.
- Categorical prediction by KNN, Logistic Regression, Decision Tree, Random Forest, Gradient boosting and Ada boosting.
- Determined the most suitable model for 2023 data and used the model for data 2024.

Time Series Analysis | Second Semester Project-1
Software: Python
Libraries: Statsmodels, Scikit-Learn, Pandas, Numpy, Seaborn, Matplotlib

- Exploratory data analysis.
- Carried out a seasonal decomposition of data on daily, weekly and monthly basis.
- Determined the best ARIMA model and used it to predict the synthetic data for future 2024 data.

Regression Prediction | First Semester Project
Software: Python
Libraries: Statsmodels, Pandas, Numpy, Seaborn, Matplotlib

- Exploratory Data Analysis for time series.
- Predicted the dates for production of renewable raw materials through regression models.
- Performed model evaluation using kfold cross-validation.
- Determined the most suitable regression model.

Volunteer Experience

Corporate Social Responsibility (CSR), Jul 2019 - Dec 2019

- Helped in planting nearly 200 saplings near office
- Helped in providing water to a nearby arid village

Rotaract in Rotaract Club of Pune Camp Pioneers, Jul 2021 - Sep 2023
Volunteered for NGO activities.
Received recognition award of **Best General Body Member** acknowledging the active participation in all the events in Rotaract Club of Pune Camp Pioneers.

- Donated stationary items to 2 NGOs
- Donated food to people who were in need
- Donated blankets to the homeless

Additional Information

Languages

- English (Fluent)
- German (B2)
- Bengali (Mother Tongue)
- Hindi (Fluent)

Projects & Internships

Army Institute of Engineering, Pune, India

Jul 2017 - Jun 2018

Undamped Free Vibration of Laminated Composite Beam |
Final Year Project

- Finding Shear Correction Factor (SCF) to make the laminated Composite Vibration like the real world.
- Modelling of Laminated Composite Beam in Abaqus.
- Comparing the results with a research paper.
- Advantages- SCF could bring result close to real world.

Aug 2016 - May 2017
Formula Student Racing Car| SAE Supra Competition
Software: Catia(V5) | Ansys(FEA | Fluent).

- Designed, Analyzed, and manufactured a Formula Style Racing car to compete in National events.
- Worked as a Head of Department: Powertrain - Engine, Intake, Exhaust, and cooling system.
- Prime Responsibilities - Innovative designing of various systems to increase efficiency as well as the performance of Engine (Royal Enfield).

Dassault Systems, Pune, India

Jun 2017

Software: Catia(V5).
Post: Intern

- Learnt CATIA part design, Assembly, Simulation.
- Designed drilling machine.
- Simulated drilling machine.

512 Army Base Workshop, Pune, India

Dec 2016

Software: CATIA (V5)
Post: Intern

- Learnt how to test life of Bogie wheels (wheels of tanks).
- We proposed an idea and designed a robotic arm, in CATIA, which can be used to hold the Non-Contact Temperature Measurement Gun to measure temperature of the wheels.