

Joydeep Sinha Chowdhury

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LEAD DATA SCIENTIST AND AI ARCHITECT

Data science leader with **11+ years of experience**,skilled in building and maintaining deploy-able AI/ML products for moderate to complex business problems.A unique blend of business skills with deep understanding of machine learning, deep learning, statistical modelling, and predictive analytics acquired through my work experience and self learning.

Highly proficient in translating business problems and functional requirements into deliverables.Proven records of providing technical consulting to top fortune 500 companies,coaching/mentoring to the team members(7+) and building strategic DS/AI capabilities within the organisation

TECHNICAL SKILLS

Languages	: Python,SQL
ML algorithms	: KNN,Naive Bayes,LR,SVM,Random forest,Ensemble models, k-means,Leiden algorithm, CNN, RNN, LSTM,transformers,large language models(LLMs/ChatGPT/Prompt Engineering)
Libraries	: Scikit-learn,Statsmodels,H2O DriverlessAI, Tensorflow ,Pytorch,Pandas,Numpy,matplotlib,seaborn
Cloud Platform	: AWS(EC2,S3,EMR,RDS,AWS Lambda,Aws-Sagemaker),GCP(Big-Query, DataProc,Buckets,Apache Air-flow cloud composer,Knowledge of Azure
Dev Tools	: Jupyter notebook,Visual Studio Code, Git,linux
Big data	: Knowledge of ETL/Data pipelines, Hive table, Pyspark,HIVE Tables/HDFS/MAP Reduce

EXPERIENCE

Associate Lead Data Scientist

Sigmoid Analytics

Apr 2022 – Present

Bangalore,India

GenAI InsightCarft Bot

- Working on the development of an intelligent bot for global CPG company, using **LLMs,langcahin,RAG** and **prompt engineering**, for reducing and automating daily reporting and insights manual workload for trade promotion

GenAI-Email Bot

- Designed and developed an intelligent email bot for an Australian Strata Management company, using **GPT Turbo 3.5,GMAIL APIs** and **prompt engineering**, reducing daily email workload from 43% to less than 10% after deployment
- Developed python script which autonomously detects new emails in the inbox and creates the draft for all the relevant stake holders

Marketing Return on Investment-MROI

- Contributed to the development and enhancement of a marketing campaign measurement platform for a Global CPG company. The platform, an A/B testing solution, is now in use worldwide for evaluating test campaigns before scaling.Improved the throughput by aprox 5%
- Designed and implemented solution identifies similar markets within a specific geography, and predicts the minimum budget required to achieve a sales uplift. Leveraged **Leiden algorithm** and **DTW correlations,Pearson correlations** for market similarity analysis and **linear regression(GLM/Time series models)** along with 2-sample t-tests for budget prediction and sales uplift measurement
- Conducted end-to-end marketing attribution measurement for Global CPG health brands in the US and UK. This encompassed data collection, processing over 10 GBs of raw data, modeling, analysis, and presenting actionable insights to the business stakeholders

Demand Sense

- As the product owner,spearheaded the development of a MVP for a Fortune 500 beverage company,focused on forecasting volume for a 6-month window across 12 markets and 3 segments within two price ranges. Leveraging **ARIMA, SARIMA, Prophet, and Exponential Smoothing techniques**, the product successfully decreased forecasting error from 13% to 8%, surpassing legacy Excel-based solutions
- Managed discussions with multiple customers and stakeholders,covering all phases from project scoping to execution
- Proficient in managing teams and conducting scrum meetings,project planning

Data Science,BDS
Vector Informatik

Dec 2015 – April 2022
Bangalore, India

- Build classification system to autonomously classify tickets into predefined classes like bugs,support request,sales enquiry using classical machine learning techniques like TFID and logistics regression.
- Led and executed multiple programs, including the analysis of quarterly search data to identify organic search and paid search contributions, as well as the design and execution of POCs for various clients,supporting sales team on closure/proposals,designing and executing go-to market strategies

Sales Engineer
BAeHAL software Ltd,Bangalore, India

March,2014 – November,2015

- Acted as business analyst for implementation of document management systems

Application Engineer
Tesscorn System Pvt Ltd, Kolkata, India

April,2012 – September,2013

- Worked as application engineer for eastern part of India

EDUCATION

BITS Pilani
M-Tech in Software systems

M-Tech

BCREC,Durgapur
B-Tech in electronics and communication

B-Tech

RESEARCH PROJECTS

Text Classification *Natural Language processing(NLP)* [Paper link](#)

- Collaborated with Dr. Tanmoy Roy, a Postdoctoral Fellow at the University of Johannesburg, South Africa
- Developed a Multi-headed Attention based text classification model and achieved more than 96% test accuracy.Compared the results with other prominent classification models like Naive Bayes, Logistics regression,random forest and mlp

Scene Understanding for Autonomous Vehicles *Computer Vision* [Thesis link](#)

- Performed complete literature review and developed U-Net with RestNet34/EfficientNet B0/EfficientNet B3 as backbone
- The complete Semantic Segmentation model is build on NVIDIA® Tesla® P100 GPU using pytorch,SMP lib and German cityscapes dataset
- The IOU and Dice loss is compared

CERTIFICATIONS

- Advance Certificate in ML and Cloud by IIT Madras
- [Generative AI with large Language model by DeepLearning.AI](#)
- [Optimization with python:Complete Pyomo Bootcamp by udemy](#)