



# Deepak Kumar Behera

Data Scientist at ERICSSON

Applied Data Scientist with around **11 years of experience**, spearheading **transformative AI solutions**, crafting ingenious **data product strategies**, and developing impactful data products that substantially increased the client's ability to turn data into actionable knowledge with the nexus of Decision Science and Computation. Proven ability in **Team Management**, **Client Engagement**, **nurturing talent**, and **Business Transformation with Generative AI**

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## ORGANIZATIONAL EXPERIENCE

ERICSSON (08/2021 - Present)  
*Lead Data Scientist*

Siemens Healthineers  
(10/2019 - 08/2021)  
*Lead Data Scientist*

HARMAN (10/2018 - 10/2019)  
*Lead Data Scientist*

Moody's Analytics  
(04/2017 - 07/2018)  
*Senior Associate*

Accenture (12/2013 - 11/2016)  
*Application Developer*

## EDUCATION

### Business Analytics and Intelligence

Indian Institute of Management (IIMB)  
07/2018 - 05/2019  
Bangalore, India

### B. Tech in Electronics & Communication Engineering

Biju Patnaik University of Technology  
07/2009 - 06/2013  
Odisha, India #CGPA - 8/10

## HONOR AWARDS

Impact Award (2023)  
ERICSSON

- Award for celebrating exceptional colleagues and their transformative impacts

Key Contributor Award (2022)  
ERICSSON

- Gets offered to individuals in recognition of outstanding performance, critical skills and potential

Power Award (2022)  
ERICSSON

- Recognition for going the extra mile to make an impact

## SKILLS & COMPETENCIES

### AI Skills

Machine Learning, Deep Learning, Generative AI, Time Series Forecasting, Natural Language Processing (NLP), NLTK, SpaCy

### Generative AI

Prompt Engineering, LLM, RAG, LlamaIndex, LangChain, GANs, VAEs, Transformers, TensorFlow, PyTorch, Keras, GPT, BERT

### Languages

Python, PySpark (Big Data Analytics)

### MLOps or LLMops

MLFlow, Docker, Kubernetes, Argo Workflows, Trubrics, FastAPI, Flask

### Auto ML

H2O LLM Studio, PyCaret, Vertex AI by Google

### Cloud Platforms

Google Cloud Platform (GCP), Microsoft Azure

### Data Visualization

Tableau, Power BI, Sisense

### Management Skills

Team Management, Client Engagement, Nurturing Talent

## DOMAIN

Health Care

Telecommunication

Banking

Life Science

## KEY DATA SCIENCE PROJECTS

### 1. Digital Assistant for NOC using GENERATIVE AI

01/2023 - Present

Telecommunications #Ericsson

**OBJECTIVE:** Decrease Mean time to restore (MTTR) by minimizing efforts of Network Operation Engineers to analyze network failure and network maintenance by developing "ONE STOP Question Answer" platform to provide asked information on alarm data, Change management data and incident data.

**SOLUTION IMPLEMENTED:**

- Prompt Engineered using Chain-of-thought (CoT) with different LLMs such as ggml (LLAMA 2 variant), NSQL and Defog-SQLCoder
- Implemented Retrieval Augmented Generation (RAG) using llama Index with domain-specific information for enriching context to LLM models for Text to SQL
- All LLM models used in offline mode in a controlled secured enterprise network ensuring data security and vulnerability
- Generated SQL query using LLM for down streaming task of text to SQL for PostgreSQL
- Summarized SQL response to natural language with dynamic context of returned SQL result to help NOC engineers understand retrived information
- Defined HIT RATE as internal metric for model evaluation and business acceptance criteria
- Used MLFlow for tracking LLM experiments and maintaining model registry
- Deployed LLM Models using docker, kubernetes and Argo Flow
- Developed Chatbot interface for end user using Streamlit and Trubrics
- Developed machine learning model for identification of co-related alarm sequence leading to outage in the network and integrated the solution to LLM

Expected Value Creation : 30% Improvement in MTTR

## HONOR AWARDS

Appreciation by NASSCOM for mentoring in Women Wizards Rule Tech Program (2020)

*National Association of Software and Service Companies*

Rising Star Award (2017)

*Moodys Analytics*

- ◆ Award for exceptional client engagement in being efficient and go-to person for the client

Accenture Celebrates Excellence (ACE) Award (2016)

*Accenture*

- ◆ Accenture Celebrates Excellence (ACE) is the highest award in Accenture which recognizes employees who demonstrate Accenture's core values and high performance. The award is considered similar to the Oscar award at Accenture

Accenture Celebrates Excellence (ACE) Award (2015)

*Accenture*

- ◆ I was one among those rare employees to receive this award 2 times in two consecutive years

## SUPPORTED CAUSES

Education For All

Environmental Sustainability

AI for Social Good

Promoting responsible and ethical AI development practices

Gender neutrality in AI

## KEY DATA SCIENCE PROJECTS

### 2. Intelligent Field For MBNL, UK

08/2021 - 12/2022

Telecommunication #Ericsson

**OBJECTIVE:** Optimize operational costs by reducing the volume of generated work orders through intelligent data-driven strategies via predicting degradation in RAN (Radio access Network) performance KPIs and taking remote actions for QIA alarms (Quality Inspection Alarms) for auto-correction of KPIs

**SOLUTION IMPLEMENTED:**

- ◆ **Clustering** of network Cells on the basis of QIA alarm KPIs of previous day
- ◆ Prediction of KPI values using **Time Series Forecasting** models on each cluster
- ◆ Anomaly Detection of KPIs using **Residual Analysis**
- ◆ Cell restarted remotely and Anomaly tracked continuously for 4 hrs to conclude the need of WO
- ◆ **Predicted failure of change request** at CR planning stage using **classification model**
- ◆ Solution is scheduled to run in every 15 mins across the network using **ARGO workflow**
- ◆ Used **MLFlow** for model tracking and model registry

*Expected Value Creation : 10-12% Reduction in QIA WOs*

### 3. Procedure Mapping to CPT CODE for Hospitals

10/2019 - 08/2021

Health care #Siemens Healthineers

**OBJECTIVE :** AI Product for hospitals to minimize the operational cost of procedure mapping in the process of hospital acquisition by assisting clinical experts with suggestion of best possible mapping to CPT CODE across modalities. Also, automate the process of selecting protocols for any procedure that needs to be studied and selected by Radiologist before performing any CT Scan or MRI Scan for the patient to get the appropriate diagnostic image

**SOLUTION IMPLEMENTED:**

- ◆ Prediction of CPT code of medical procedures using **Natural Language Processing Classification**
- ◆ **Classification model** for prediction of protocols using procedures as input

*Expected Value Creation : 780 Manhours saved for acquisition of CCF Hospital and UNION Hospital as a part of the pilot run*

### 4. Real Driving Emissions Measurement using AI

08/2018 - 04/2019

IIM, Bangalore Sponsored by #Bosch

**OBJECTIVE :** Designing of an AI enabled solution for predicting the real-drive emission with sensor data of engine speed, throttle angle and ignition timing [ More Details - [www.bosch.com/stories/real-driving-emissions/](http://www.bosch.com/stories/real-driving-emissions/) ]

**SOLUTION IMPLEMENTED:**

- ◆ A simulation product was built with analytical models to **predict the fuel injection amount** by taking engine speed, throttle angle and ignition timing as input.
- ◆ **Harmonized data** for engine speed, throttle angle and ignition timing to bring them into same drive cycle
- ◆ Predicted fuel injection amount using **Vector Auto-Regression** multivariate time series Analysis using above harmonized data
- ◆ The above output ( predicted fuel injection amount ) was planned to be used in combination with physics model and parameters like temperature, pressure, air to fuel ratio etc for predicting actual emission

## ACTIVITIES BEYOND WORK

Elevating Talent

- ◆ Mentored colleagues on "Data Science" at Accenture, Moody's Analytics, Siemens Healthineers and Ericsson

Driving Innovation

- ◆ Spearheaded Community of Practice for DA and AI at Siemens Healthineers

Fostering Impact

- ◆ Led people activities and CSR activities for project team at Accenture and got appreciated for outstanding contribution as PoC in the People Engagement team