

# Krishna N.

## Senior Data Engineer

### SUMMARY

- About 6 years of experience in Data Engineering
- Upper-Intermediate English.
- Available ASAP.

### TECHNICAL SKILLS

<b>Main Technical Skills</b>	Machine Learning Algorithms (6 yr.), Python (6 yr.), NLP (6 yr.)
<b>Programming Languages</b>	Python (6 yr.), R (1 yr.)
<b>.NET Platform</b>	Azure
<b>Python Libraries and Tools</b>	Beautiful Soup, Gensim, Keras (4 yr.), Matplotlib, NLTK, NumPy, Pandas, Plotly, PySpark (1 yr.), PyTorch (2 yr.), Scikit-learn, SciPy, Seaborn, TensorFlow
<b>JavaScript Frameworks</b>	D3.js
<b>UI Frameworks, Libraries, and Browsers</b>	D3.js
<b>AI &amp; Machine Learning</b>	Deep Learning (5 yr.), Keras (4 yr.), NLP (6 yr.), NumPy, PyTorch (2 yr.), Scikit-learn, Spacy, TensorFlow
<b>Python Frameworks</b>	Flask
<b>R Frameworks</b>	Shiny
<b>Data Analysis and Visualization Technologies</b>	Pandas, Superset, Time series analysis
<b>Databases &amp; Management Systems / ORM</b>	SQL (6 yr.)
<b>Cloud Platforms, Services &amp; Computing</b>	Azure, GCP

<b>Methodologies, Paradigms and Patterns</b>	Agile, Scrum
<b>Version Control</b>	BitBucket, Git, SourceTree
<b>Collaboration, Task &amp; Issue Tracking</b>	Jira
<b>SDK / API and Integrations</b>	RESTful API
<b>Other Technical Skills</b>	Data Analytics, Data Visualization Tools, Machine Learning Frameworks (6 yr.), Predictive Analytics, Signal processing (3 yr.), Statistical modeling, Statsmodels

## EXPERIENCE

### Data Scientist III at Walmart Global Tech, Bangalore, India

07/2022 - today

**Product:** Walmart Luminate - B2B supplier support app used by multinationals like

Nestlé, Procter & Gamble, Johnson & Johnson for sales data analytics.

- As part of the solution, build an anomaly alert ranking module to detect, prioritize and contextualize anomalies for Walmart products.
- Collaborate with the data engineering team to develop and implement best coding practices like code modularity and productionisation.

**Technologies:** Anomaly recommendation | Statistical modeling | Regression | Machine Learning | Time series analysis | Pyspark | SQL | Element | Git

### Senior Data Scientist at Bosch Global Software Technologies, Bangalore, India

04/2020 - 06/2022

**Project:** ITAM - Intelligent Tyre Asset Management System for CEAT (leading tyre manufacturer) to check real-time tyre health and performance.

- In charge of the end-to-end project development life-cycle, leading the analytics team of four data scientists. Built predictive models using machine learning algorithms (XGBoost, Regression analysis), statistical modeling, and digital signal processing techniques to improve the predictability of tyre performance and reduce costs incurred in managing tyres.
- Oversaw engineering of the collected data to directly read from sensor logs to a model-ready format. Developed an app using Python, and regex to perform the data manipulation task that works well for various sensor versions. This



has significantly saved hours of effort to perform manual data manipulation for field testers. Visualized signals, analyzed data, extracted features, built models, proactively suggested new use cases, and presented insights to CEAT that improved overall safety and downtime by tyre accidents. Received Bosch Agile Award for project excellence.

**Technologies:** Machine Learning | Signal Processing techniques (FFT, Autocorrelation, Wavelet transform, PSD, Filtering) | Statistical modeling | Pattern Recognition | Regex | XGBoost | Regression | Python | Lime | Scikit-Learn | Pandas

**Product:** Phantom Edge - an AIoT platform with real-time views of electrical energy consumption and machine-level information used by German industry clients like KERN-LIEBERS and Milltec.

- In charge of automating cycle time detection and signal pattern identification modules using ML, Statistical Modeling, and Signal Processing Techniques for the 2.0 version.
- Automated the cycle time capture from signals and measured accurate downtimes by providing timely, bias-free, and precise data that form the basis for managers to set targets, track performance, analyze, and improve continuously. The algorithm built was fully generalized to work well for all small and medium-scale machines without any manual intervention. Worked for 40+ clients and took part in their industry 4.0 digital transformation journey. Received Extra miler award for team contributions by Bosch.

**Technologies:** Machine Learning | Signal processing techniques (Fourier Transform, Wavelet scattering, Filtering, Smoothing) | Feature extraction | Statistical modeling | PCA | Pattern matching | Clustering analysis | Time series analysis | Correlation | Anomaly detection | Python | Scikit-Learn | Pandas | NumPy.

### **Data Analyst at EY Global Delivery Services India LLP, Trivandrum**

04/2019 - 03/2020

**Project:** Management services bot - Responsive & AI-based chatbot for customer interaction with Guidewire (US insurance company) for customer queries (text/voice).

Played a key role in development/integration/deployment. Trained Microsoft LUIS for intent classification with customer data and leveraged phonetic algorithms to overcome errors from misunderstanding of voice input. Built and integrated a D3.js-based visualization module for providing graphical responses for customer queries on coverage/plan. Integrated Azure speech-to-text and text-to-speech



APIs

with the application.

**Technologies:** Python | Flask | REST API | Microsoft SQL Server | Microsoft LUIS | AIML | Phonetic algorithms | Azure speech services | D3.js

**Project:** Policy bot - Responsive chatbot for user queries on insurance policies. Designed the bot, a pure Python-based search engine to match user queries with the

policy PDFs and deployed the final solution in Azure.

**Technologies:** Python | Flask | Whoosh | Tika | MongoDB | Azure app services | Git.

## **Machine Learning Developer at TATA Consultancy Services Limited, Coimbatore**

11/2016 - 04/2019

**Project:** Gilbarco Chatbot - AI engine developed for Gilbarco Veeder-Root (US fueling

equipment supplier) to monitor the performance of fuel dispensers/meters across fuel

stations in real-time. Developed a hybrid model from scratch that predicts working

conditions, next week's flow rate, and the survival probability of the fuel dispensers

(clog/normal) using machine learning algorithms and statistical analysis. Worked with

2 developers so they translated the model to the bot. Reduced downtime for maintenance because of a data-driven decision to optimize maintenance planning.

**Technologies:** Python | Trend analysis | Binary classification | MLP | Survival analysis |

Regression analysis | SQL.

**Project:** Auto-categorization of IT support tickets - Built ML algorithm for app service

providers to manage/automatically resolve support tickets. Used a hybrid approach

that uses both unsupervised clustering and supervised deep learning embedding to

maximize the feature exploration and learning efficacy. Multiple optimized models are

assembled to build a recommendation engine - reducing the time to resolve the tickets

without multiple reopening/long triaging by 50%.

**Technologies:** Python | Topic modelling | NMF | LDA | NLP | Clustering | LSTM | Keras | Deep neural networks | Tf-idf.

## **EDUCATION**

Bachelor of Technology in Electronics and Communications Engineering, N S S College of Engineering, Palakkad, India

08/2012 - 07/2016



## **CERTIFICATES**

- Microsoft Certified: Azure AI Fundamentals
- Applied Data Science with Python

## **ACHIEVEMENTS**

- Winner of Independence Day medical imaging hackathon (Bosch)
- Extra miler award for team contributions (Bosch)
- Bravo award for mentorship (Bosch)
- Agile award for project excellence (Bosch)
- Part of "PHANTOM IoT Solution" that won NASSCOM Innovation Award for "Engineered in India Product of the Year 2021" & finalist in "Bosch India Innovation award 2020"

## **PATENTS**

An apparatus and method to estimate cycle time for processing a workpiece in an industry - Application number: 202141034096, Jul 2021, filed together with Bosch, status pending with Indian Patent Office.

A system and method to monitor the operation of a machine in a manufacturing industry - Application number: 202141034093, Jul 2021, filed together with Bosch, status pending with Indian Patent Office.

