Ashwin Koodathil

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Professional Summary

Lead Data Scientist at Tiger Analytics, leading key data science initiatives with 6+ years of expertise in the CPG and utilities sectors. Specialize in product life cycles, customer engagement, and supply chain optimization. Proficient in Python, SQL, and PySpark, with a strong focus on developing and deploying machine learning models. Passionate about continuous learning and currently exploring the exciting potential of generative AI

Education

Indian Institute of Science Education and Research   August 2018
Bachelor of Science and Master of Science Mathematics   *Bhopal, MP*
- **Relevant Coursework:** Data Structures and Algorithms , Prob & Stat , Linear Algebra, Graph Theory
- **Master Thesis:** Research on algebraic graph theory and graph embedding on topological surfaces

Experience

Tiger Analytics   March 2025 – Present
Lead Data Scientist   *Bengaluru, Karnataka*
- Spearheaded the development of an MLOps observability platform, providing comprehensive visibility into the model lifecycle, evaluation, and drift monitoring.
- Introduced anomaly detection, data drift, and data quality monitoring capabilities into the observability platform, strengthening model reliability and trustworthiness.
- Designed reusable templates for Exploratory Data Analysis (EDA), model evaluation, and monitoring evaluation, reducing onboarding effort and ensuring scalability across projects.
- Drove a 60% performance improvement by integrating Spark 4.0 visualizations and replacing Pandas bottlenecks with a Polars-based framework, significantly reducing analysis latency.
- Developed SDK functionality for the observability platform, enabling seamless integration into existing workflows, simplifying logging, and enhancing developer adoption.
- Led project management initiatives including client request gathering, issue resolution, and service operations, improving delivery efficiency and stakeholder satisfaction.

MathCo - TheMathCompany   Jan 2023 – March 2025
Senior Data Scientist   *Bengaluru, Karnataka*
- Led a data science initiative for a major Canadian retailer, focusing on demand forecasting, shelf space optimization, and creating substitutable product groups. Significantly improved product turnover and sales effectiveness by aligning inventory with consumer demand.
- Built a demand forecasting model using Gradient Boosting with PySpark on Databricks-Azure, achieving a 12% MAPE for store-level forecasts over the next three months.
- Developed a custom algorithm to optimize shelf space allocation using advanced optimization techniques such as Mixed Integer Linear Programming (MILP) with PuLP and Gurobi. Leveraged PySpark for distributed processing, increasing shelf occupancy from 70% to 99% and reducing run time from 8 hours to 20 minutes.
- Created a Prod2Vec model by integrating transaction patterns and product attributes through Word2Vec, then optimized clusters with Agglomerative Clustering. These refined product groups significantly minimized the need for business corrections.

Convertcart   Sep 2021 – Dec 2022
Data Scientist   *Bengaluru, Karnataka*
- Successfully implemented and deployed a customer segmentation model in GCP using clustering techniques such as hierarchical clustering, k-means etc
- Developed cluster explainability metrics for business use cases, enabling the creation of custom marketing content at the customer level.
- This model drove personalized product recommendations, significantly boosting customer engagement and satisfaction. It was also adapted for CPG companies in e-commerce, ensuring precision and relevance in a competitive market

Vanilla Networks Pvt Ltd   May 2020, Aug 2021

Data Scientist   *Kochi, Kerala*

- Developed a high-accuracy water leak detection model using XGBoost and PySpark for a UK utility company
- This model was integral to creating a more effective water leak alarm system, reducing false alarms by 23%
- The improved alarm system optimized resource allocation and enhanced operational efficiency in water management

Teknuance Info Solutions Pvt Ltd   Jan 2019, Mar 2020

Research and Developer, Machine Learning   *Chennai, TamilNadu*

- Using graph theory, developed a search-driven analytics tool that translates natural language queries into Python for data visualization, enhancing user experience.
- Worked on chart recommendation for a business intelligence tool, creating a system that buckets different charts and recommends the correct chart based on the selected data.
- These advancements significantly improved the accuracy and usability of data visualization, making it more intuitive for users to interact with complex datasets.

Certifications in Data Science

Python For Data Science Professional   Sept 2019

Edureka

- Explored linear regression models, decision trees for regression and classification, and support vector machines.

Deep Learning Specialization   Dec 2020

Coursera

- Covered Neural Network Architectures, including Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Long Short-Term Memory Networks (LSTMs), and Transformers.

The Complete SQL Bootcamp   Jul 2021

Udemy

- Explored basics of SQL and data analysis through SQL

Technical Skills

Languages: Python, Pyspark, R
Framework: TensorFlow, Flask, Ray, NLTK,SpaCy, Pandas, NumPy, Numba, SkLearn, SynapseML, Spark ML,PuLP, LangChain, HugginFace, OpenAi, Ollama
Cloud Platform: Microsoft Azure, Google Cloud Platform, AWS