

## Summary

Seasoned **AI Engineer** with specialization in building **Cloud based Data Science solutions**, adept at seamlessly translate business requirement to Analytics use case and establish the complete roadmap to get insights from data and draw meaningful and fruitful recommendations using **Data Science, Generative AI, Natural Language Processing, Business Intelligence and Reporting**. Experienced leader with **10+ years** history in field of **developing ML models, Data Engineering, MLOps, and Deploying solutions on cloud platforms**. Clear communicator, decision maker and problem solver.

## Skills

### Tools and Technologies

<b>Machine Learning Frameworks</b>	Tensorflow, Pytorch, Scikit-learn, Keras, XGBoost	4.8/5
<b>Generative AI</b>	LLM, Agents, RAG, Langchain, LlamaIndex	4.8/5
<b>Data Engineering</b>	Apache Spark, AWS, Hadoop Tech Stack, Airflow, Pandas	4.5/5
<b>Data Storage Solutions</b>	MySQL, MongoDB, Cassandra, AWS S3, Snowflake, AWS Redshift	4.3/5
<b>Model Deployment Tools</b>	Docker, Kubernetes, MLFlow, AWS EKS, Beanstalk	4.5/5
<b>Programming Languages</b>	Python, R, Shell	4.5/5
<b>Monitoring and Logging</b>	Prometheus, Tensorboard, ELK Stack	4.5/5
<b>Collaboration &amp; Version Control</b>	Github, GitLab, BitBucket, Jupyter Notebook	4.5/5
<b>CI/CD Tools</b>	Jenkins, Github Actions, Circle CI	4/5
<b>DevOps Practices</b>	AWS CloudFormation, Terraform, Chef	4/5

### Core Competencies

- Project Delivery
- Client Engagement
- Thought Leadership
- System Design and Architectures
- Operations Management
- Team Management
- Business Development
- Pre-Sales
- Product Management

### Domain Expertise

<b>Healthcare</b>	Patients, Providers, Payers, Clinical Trials
<b>Life Sciences</b>	Genomics, Digital Chemistry, Biostatistics, Experimental Spaces
<b>Electronics</b>	Surface, Display, Semiconductor Solutions
<b>Food and Beverages</b>	Nutrition Science, Nutrient Profiling Systems

### Certifications

<b>AWS</b>	AWS ML Speciality, Data Analytics, Solutions Architect
<b>Project Management</b>	Google Project Management

### Education

<b>MBA</b>	Great Lakes Institute of Management	Data Science (Deep Learning & AI)	2018-2019
<b>B.Tech</b>	Rajasthan Technical University	Electrical Engineering	2011-2015

### Professional Experience

<b>Axtria India Pvt Ltd</b>	Dec 23 - Present
<b>Merck Group Pvt Ltd</b>	Mar 22 – Dec 23
<b>Virtusa Consulting Pvt Ltd</b>	Apr 19 – Mar 22
<b>Cognizant Technology Services Pvt Ltd</b>	Feb 16 – Mar 18

## Project Details

### Axtria – Senior Manager

#### Role – Module Lead

I Lead the Analytics vertical for a healthcare client for Axtria, where my role is to manage project delivery, resources, and drive results.

#### Generative AI

- Created a **Chatbot** using **LLM, RAG** which can converse with Tabular Data, and generate Insights and Charts for a user question. Deployed the Solution for **EMEA** Region
- Created a **Chatbot** to converse with **millions of documents** from existing database to solve complex user questions and display the information and the sources
- Used **Spacy** and **LLM** to perform **NER** on **Patient Health data** and create a **knowledge graph** from it using **NetworkX**
- Created a **Knowledge Graph** using **LLM, Neo4j** and **Ontologies** to enable user's **TAT** by **60%**
- **Finetuned** LLM using **Transfer Learning** on Domain data to increase the Response Accuracy by **80%**
- Utilized **Streamlit, AWS** and **EKS** to deploy the LLM based application to be used by thousands of users

#### MLOps/ Data Engineering

- Deployed LLM based chatbots as **Flask API** on **Ec2** instance as API on REST
- Utilized AWS EKS to deploy solutions in **docker** and **container**
- Created Data Pipelines using **Pyspark** and managed **50 TB+** data flowing daily
- Created Spark jobs to reduce computation time to pull data from sources y more than **90%**

### Merck (Sigma Aldrich Chemicals Pvt Ltd) – Expert 3

#### Role – Data Science Manager

I Lead the Data Science vertical for Merck Life Sciences, India, where I engage with stakeholders and businesses as an advisory architect for product strategy, delivery and roadmap. My KPIs are innovation oriented with measured timelines.

#### Data Science and Computer Vision

- Implemented **Bayesian Optimization** across various verticals in **Life Sciences**, to predict the **experimental space** for **drug discovery**, which saved a total project cost of **250k Euros**
- Created an **No Code/ Low Code** to **pre process images and videos** using **OpenCV, Tensorflow** and **Autoviz**

#### Business Intelligence and Engineering

- Created an interactive for **Operations Excellence** team to capture the **alerts and bugs** at the **pipeline level**
- Created a **Data Pipeline** to capture **data transformations** to decrease the operation execution **time and data loss** by **25%**
- Dashboard and Automated **ML process** which reduced manual workload by upto **1500 hours monthly** in **Tableau**

### Virtusa – Sr. Consultant

#### Role – Data Science and Cloud Lead

As a Technical Lead, I collaborate with various stakeholders, design workflows, and provide technical expertise to senior leadership

#### Machine Learning and AI

- Generating artificial patient identifiers using **GANs**, the generated data mimics the real-world data that costs **3 million USD**
- Leveraged **CNN** with Tensor flow backend to classify MRI scan of brain tumors & cancerous tumors from a chest X-ray
- Published a white paper – **Knowledge Graphs in Life Sciences** with **Stanford University**

## Natural Language Processing

- Developed a custom package in **Conversational AI** using **CoLBERT** – Transformer that can answer queries in **<1 Second**
- Developed an Automated method to summarize Clinical Notes using Harvard Emotional Dictionary and NLU Concepts

## Cognizant Technology Solutions – Programmer Analyst

### Role – Big Data Developer

- I worked on Integration of Hbase with Hadoop and Hive, and on distributed frameworks – Kafka
- Worked as a Production Engineer and managed health of **500+ jobs** running on Hadoop Cluster

## Open Source Projects

### Technologies – Gen AI/ NLP/ Data Science

## Multiple Personal Projects

- Utilized **OpenAI Whisper** to convert **Audio to Transcript** and then pass it to LLM as a user question to generate response. Created a Chatbot on top of it that allowed the user to **Talk to the LLM** model
- Used various Deep Learning and Machine Learning Algorithms to create Recommendation Systems on Structured and Unstructured Data
- Used Third Party Open Source API to create SecOps Mechanism to identify security breach on Ec2 instance and integretated it with existing NACLs
- Created OCR Engines to extract text from videos, images and handwritten notes using **SparkOCR**, **Pytesseract** and **GPT-4o**