

# Rajesh Subramanian

Senior Big Data | AI | ML Engineer | Full-Stack Software Architect

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 <https://www.kaggle.com/rajeshsubramanian27>  <https://srajesh2712.github.io>



## Profile

- Specialized in designing **high-throughput distributed systems** with **metadata-driven ETL frameworks** reducing pipeline onboarding time by **70%**
- **Results Driven** Architectural Strategy: Proven track record of transitioning complex monolithic systems to **Cloud-Native Microservices** (Python / Java / Spring Boot / Go ecosystem ) with **12 Factor App** methodologies and **Software Design Principles** increasing operational efficiency gains by **27%**
- **Cost Efficient** Distributed Data Engineering: Architected large-scale pipelines using Big Data Technologies such as **Hadoop, Spark, Docker / Kubernetes (GKE)**, and **Airflow** etc. optimizing workloads to achieve **40% reductions in compute costs**
- **Business Efficiency** with AI & Emerging Tech: Improved business performance by 20% by implementing Machine Learning & Neural Network models
- **Leadership & Full-Stack Mastery:** Deep proficiency in Python and Java ecosystems ( in **Spring Boot, FastAPI, Go** ), Proven track record of ability to upgrade along with evolution of technology
- Active **opensource contributor** in Kaggle and github projects
- **Communication:** B1+ Level German skills.

## Skills

### Big Data & Analytics

Apache Spark, Apache Iceberg, Parquet, Hadoop, Kafka, Airflow, Sedona, Dask, Lakehouse

### Programming & Backend

Python, Java J2EE, Spring Boot, Microservices Go, Gin, Fast API, Node, Express JS, Nest JS

### Front End

React JS, Angular

### AI | Generative AI | ML

Machine Learning, Neural Networks, Model Context Protocol (MCP), Building Agent, Retrieval-Augmented Generation (RAG), **HNSW (Vector Search Indexing)**, LangChain, Natural Language Processing (NLP), Computer Vision

### Databases & Graph

PostgreSQL, MongoDB, Neo4j, ArangoDB, Oracle, MySQL, Teradata, Database Migration

### Cloud & DevOps

**Cloud-Native Architecture** (AWS, Google Cloud ), Docker, Kubernetes, Infrastructure as Code (Terraform), Circle CI

### APIs & Messaging

Kafka, Kafka Streams, Google Cloud Pub/Sub, Active MQ, gRPC, REST, Webhooks, Socket Programming

## Work Experience

### Lead Data Engineer

07/2025 – Present | Chennai, India

*BigThinkCode Technologies*

- Architecting projects with techstack React, NestJS, Postgres
- Designing Pipelines for scalable distribution systems
- Socket Programming for LIVE PCM Audio transfer for podcast

### Data & AI Intern

11/2025 – 12/2025 | Stirling, Scotland

*Keep Scotland Beautiful*

- Participated in the architecture design phase of the AI project, providing input on data scalability and near-real-time processing requirements
- Actively contributed to the Litter Detection Project by collecting and labeling a high-quality dataset of **1000** images for AI model training

### Lead Fullstack / Data Engineer

08/2022 – 01/2025 | Chennai, India

*BigThinkCode Technologies* 

- **Architected a Metadata-Driven ETL Framework:** Developed a pluggable "Configuration-over-Code" system using **PySpark**, reducing new pipeline onboarding time by **70%**
- **Engineered Kubernetes-Native Infrastructure:** Deployed Spark on **GKE**, implementing dynamic dependency loading for distributed archives (ZIP/JAR) to ensure seamless scaling and a **40% reduction in compute costs**
- **Decoupled Business Logic from Engine:** Established a 3-tier architecture (JSON Manifest, Orchestrator, Worker Logic) that increased code reusability and maintained **99.9% pipeline reliability** across global brand datasets
- **Architected** scalable Enterprise level application using **SOLID Principles** and **12 Factor App** using Fast API / React / Postgres / AWS

### Full Stack Engineer

03/2021 – 07/2022 | Pondicherry, India

*Software - Freelancer* 

### Technical Manager

03/2012 – 03/2021 | Pondicherry, India

*eSales Technologies Pvt Ltd*

- **Architected Scalable Cloud-Native Web Applications by Leveraging Java / Python ecosystem** to design a microservices-based e-commerce ecosystem, improving system modularity and reducing feature deployment cycles by **40%**
- **Engineered Generic E-commerce Data Warehousing:** Built a modular data warehouse architecture to centralize cross-platform retail data, utilizing **metadata-driven** patterns to support rapid business intelligence and reporting.
- **Modernized Legacy Infrastructure:** Spearheaded the migration of monolithic PLB legacy applications to a **Cloud-Native architecture**, resulting in a **27% gain in operational efficiency** and significantly lower maintenance overhead.
- **Optimized High-Performance APIs:** Redesigned core system interfaces using **FastAPI** and **Gin**, achieving a **30% reduction in latency** and ensuring the platform could scale to meet peak traffic demands.

- Associate Consultant** 12/2010 – 03/2012 | Chennai, India  
*Oracle Financial Software Services*  
Developed and implemented core banking modules for Tier-1 financial clients, ensuring compliance with regulatory standards.
- Programmer Analyst** 10/2009 – 12/2010 | Chennai, India  
*Cognizant Technology Solutions India Pvt Limited*
- Senior Software Engineer** 11/2006 – 09/2009 | Chennai, India  
*iGate Global Solutions*  
Led the successful migration of two legacy systems onto a unified platform in terradata, improving data consistency and reporting speed by **27%**

## Education

- M.Sc Big Data** 01/2025 – 09/2026 | Stirling, UK  
*University of Stirling*
- M.B.A - International Business** 08/2008 – 05/2012 | Pondicherry, India  
*Loyola College/ Pondicherry University* [↗](#)
- Bachelor of Technology - Electrical & Electronics Engineering** 08/2002 – 05/2006 | Pondicherry, India  
*Pondicherry University*

## Certifications

- AWS Cloud Practitioner [↗](#)
- Astronomer Certification DAG  
Authoring for Apache Airflow [↗](#)
- Azure AI Fundamentals