### **PONCHANON DATTA RONE**

Senior Integration Engineer | Software Engineer

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### **Career Summary**

Senior Data Engineer with 12+ years of experience specializing in building scalable data infrastructure for healthcare applications, cloud-native solutions, and machine learning systems. Skilled in optimizing large-scale ETL pipelines, implementing AI-driven data solutions, and ensuring compliance with healthcare regulations (HIPAA). Proven ability to lead cross-functional teams and deliver high-performance, reliable data products in cloud environments like Azure and AWS.

### **Skills**

#### **Backend Development & Programming**:

* **Languages**: Python, Java, C#, SQL, Bash, PLSQL
* **Frameworks**: Spring Boot, Flask, Django
* **APIs & Microservices**: RESTful APIs, GraphQL, gRPC, OAuth 2.0, JWT, SOAP
* **System Design**: Distributed Systems, Microservices Architecture, Real-Time Data Processing, Event-Driven Architecture

#### **Data Engineering & Processing**:

* **ETL/ELT**: Azure Data Factory, Databricks, Apache Airflow, Apache Kafka
* **Data Pipelines**: Hadoop, Apache Spark, PySpark, Snowflake, AWS Redshift
* **Databases**: SQL Server, PostgreSQL, MySQL, Oracle, MongoDB, Cosmos DB
* **Big Data Tools**: Hadoop, Spark, Databricks, Apache Kafka

#### **Machine Learning & NLP**:

* **ML Frameworks**: Scikit-learn, TensorFlow, PyTorch
* **Algorithms**: Linear/Logistic Regression, Decision Trees, Random Forests, SVM, k-Nearest Neighbors, Clustering (K-Means, DBSCAN)
* **NLP Tools** (if applicable): NLTK, SpaCy, Hugging Face Transformers
* **Healthcare Data Integration**: ICD10, CPT, LOINC, FHIR, HL7

#### **Cloud & DevOps**:

* **Cloud Platforms**: Azure (Data Lake, Blob Storage, Functions), AWS (S3, Redshift, EC2)
* **DevOps Tools**: CI/CD (Azure DevOps, Jenkins, GitHub Actions), Terraform, Docker, Kubernetes
* **Monitoring**: Azure Monitor, Grafana, Prometheus

#### **Search Technologies**:

* **Search Engines**: Elasticsearch, Apache Solr
* **Indexing & Optimization**: Search Relevance Tuning, Data Indexing Processes

#### **Security & Compliance**:

* **Standards**: HIPAA, HITECH, OAuth 2.0, JWT, RBAC, SAML
* **Testing & QA**: Unit Testing (JUnit, pytest), Integration Testing, Selenium, Postman

#### **Collaboration & Project Management**:

* **Tools**: Jira, Confluence, ClickUp, Quip
* **Methodologies**: Agile (Scrum), CI/CD

### **Professional Experience**

#### **Data Integration Engineer**

#### **Dyania Health — New Jersey, USA (Project Partner: Cleveland Clinic Foundation, Ohio, USA)**

#### **Jul 2024 – Nov 2024**

* **Clinical Notes Processing**: Built and optimized ETL pipelines for FHIR-based clinical notes, improving data processing efficiency and enabling structured ingestion of unstructured medical data.
* **AI-Enhanced Data Pipelines**: Integrated NLP models for key medical information extraction, boosting data accessibility and aiding machine learning tasks like clinical decision support.
* **FHIR & HL7 Integration**: Developed custom FHIR and HL7 data mappings, reducing inconsistencies by 20% and enhancing data interoperability.
* **Data Quality Assurance**: Implemented robust data validation frameworks, achieving 99.9% data accuracy and reducing error rates in ETL processes.
* **Machine Learning Collaboration**: Streamlined data inputs for machine learning models, enhancing AI-driven analytics for patient outcome predictions.
* **Search Optimization**: Integrated Elasticsearch for clinical notes indexing, reducing search response times by 30% and improving retrieval accuracy.

#### **DevOps Engineer**

#### **Skyline Tech Solutions — Client: Microsoft Corporation, USA**

#### **Mar 2024 – Jul 2024**

* ***CI/CD Integration:*** Designed and deployed Python and Java applications within an Azure DevOps environment integrated with MSSQL, reducing release times by 50% and increasing system reliability.
* ***Database Optimization:*** Enhanced MSSQL database performance through query optimization and indexing, achieving a 40% reduction in data transaction times and improved reporting accuracy.
* ***Search Optimization:*** Implemented data indexing and retrieval processes for improved search relevance, reducing query response times by 25%.
* ***API Development:*** Built secure RESTful APIs for seamless interoperability between Microsoft applications and third-party systems, standardizing data exchange and improving flow efficiency.
* ***Unit and Integration Testing:*** Performed rigorous unit and integration testing, reducing post-release defects by 30% and improving overall system stability.
* ***Cross-Functional Collaboration:*** Worked closely with DevOps and QA teams to refine deployment workflows and ensure smooth integration with existing systems, minimizing production issues by 20%.

#### **Technical Team Lead (Head of Data Engineering & Tech Ops)**

#### **Praava Health Bangladesh Ltd. — Leading Healthcare IT Startup**

#### **Jan 2017 – Jan 2023**

* ***Led Data Warehouse and Pipeline Projects:*** Designed and implemented scalable data warehousing and ETL initiatives using Azure Data Factory, Databricks, and Azure Gen 2, Hadoop. Reduced manual handling by 98%, ensuring accurate, consistent data flow across systems.
* ***Azure Cloud Solutions Implementation:*** Deployed and managed scalable Azure Data Factory pipelines, Databricks for data processing, and integrated Azure Functions, which improved data pipeline performance and reliability.
* ***Data Migration & Integration:*** Successful migration of patient and operational data from legacy to a compliant Azure-based data warehouse, adhering to healthcare standards like HL7, FHIR, and HIPAA.
* ***Elasticsearch for EMR Development:*** Implemented Elasticsearch to enhance the speed and accuracy of EMR data retrieval, reducing query response times by 40%, and significantly improving user access to patient records.
* ***Automated Workflows:*** Leveraged Azure Logic Apps to automate data integration, cutting project delivery time by 50% and achieving seamless interoperability with healthcare data formats.
* ***Team Leadership & Mentorship:*** Provided guidance on software and data engineering best practices, network optimization, resulting in faster project delivery with 30% improvement in team efficiency.

#### **Senior Engineer**

#### **VEON Ltd. (Banglalink) — Prominent Multinational Telecom Company**

#### **Mar 2011 – Nov 2016**

* ***Backend Optimization for Telecom Operations:*** Developed high-performance backend solutions using Java and Oracle, optimizing telecom data processing times by 80% and achieving significant operational cost savings.
* ***Data Warehousing Solutions:*** Built and managed a data warehousing solution that streamlined data storage and retrieval for telecom analytics, improving data processing speed by 60% and enabling near real-time analytics.
* ***Network Analysis Tool Development:*** Created custom network call analysis tools, reducing dropped call rates by 15% and enhancing overall customer experience and network service quality.
* ***Automation and Process Improvements:*** Developed automation scripts and tools to support network maintenance, achieving a 20% reduction in manual workload and enhancing operational efficiency.
* ***Mentoring & Technical Leadership:*** Provided mentorship to junior engineers, fostering a culture of continuous improvement and knowledge sharing, which increased team productivity and reduced onboarding times for new members by 25%.

### **Education**

* M.S. in Computer Science — Maharishi International University, Iowa, USA
* M.S. in Information System Security — Bangladesh University of Professionals, Bangladesh
* B.S. in Computer Science & Engineering — Chittagong University of Engineering & Technology, Bangladesh

### **Certifications**

* ITIL® Foundation — AXELOS Global Best Practice
* Red Hat Certified System Administrator (RHCSA)
* Career Essentials in GitHub Professional Certificate