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Role: Sr Data Analyst/ Data Scientist



# PROFESSIONAL SUMMARY

* **Around** 9+ years of hands-on experience as a **Data Analyst** dealing with **Data Visualization, Business Intelligence, and Information Systems** in the **Healthcare** industry.
* Experienced Statistical Data Scientist in ML, deep learning (LSTM, CNN, N-BEATS), NLP/LLMs, and optimization (LP/MIP) using Python, Gurobi, Databricks, and Snowflake.
* Leveraged expertise in healthcare standards, including **HL7** messages and **FHIR**, to drive enhancements in healthcare operations and streamline interoperability processes.
* Proficient knowledge of **HIPAA**, **HEDIS**, **ICD coding**, **SNOMED- CT**, **LOINC, TEFCA, OASIS**, **HITECH**, and **GDPR** guidelines.
* Collaborated with cross-functional teams by sharing and collaborating on ArcGIS Online maps, apps, and data, facilitating data-driven decision-making. Performed analysis on **clinical outcomes data**, **Medicare and Medicaid claims** data and **billing systems**, and **registry data** obtained from sources such as **EHRs**, **patient portals**, and **financial applications.**
* Hands-on experience with **LeasePlus, ProfitStars, Visions, Stucky, and Workday Financials.**
* Hands-on experience working with **ServiceNow**, including querying data, extracting insights, and ensuring ITSM-related issues are analyzed and resolved effectively.
* Worked with **Cerner, Citrix, Epic, Health Quest, and Relay** Electronic Health Record systems (**EHR**).
* Analysed and processed healthcare **EDI transactions**, such as **837**(claims), **835** (remittance advice), and **270**/**271**.
* Proficiently managed **healthcare insurance plans**, including enrolment, eligibility verification, and member communications, ensuring seamless access to healthcare services.2
* Experienced in multiple **SDLC** models and utilized **Waterfall project management Agile methodologies** to successfully plan, execute, and deliver projects on time and within budget.
* Skilled in working with product owners, developing User Stories using **JIRA and confluence, and** successfully led **sprint planning sessions** and **backlog refinement activities** to deliver accurate decisions.
* Proficient in **Snowflake data warehousing platform**, including data loading, transformation, and querying.
* Facilitated and led **sprint planning sessions** and **backlog refinement activities**, ensuring efficient and collaborative team engagement and alignment with project objectives and timelines.
* Hands-on experience analyzing IQVIA LAAD and Symphony APLD datasets to generate insights into patient journeys, access barriers, and payer coverage trends.
* Deep understanding of Market Access, including payer segmentation, formulary analysis, and claims adjudication metrics, supporting strategy development for product reimbursement and affordability analytics.
* Conducted **root cause, gap,** and **impact analysis** to drive problem-solving and informed decision-making.
* Worked with **Waterfall** and **Agile methodologies (Scrum and Kanban)** environment and gathered the requirements, created process models, and revised the **business requirement document (BRD)**.
* Hands-on experience in **Python programming, utilizing libraries such as Pandas, NumPy, and Matplotl**ib for data analysis, visualization, and automation.
* Experience working with **Salesforce, a 3x certified professional** and customer support analytics, leveraging data insights to improve customer engagement and operational efficiency.
* Created comprehensive **Business Required Documents (BRDs)** and **Functional Required Documents FRD**s to capture and align business objectives, stakeholder expectations, and functional requirements for effective project execution.
* Created **Use Case Diagrams** and **flow charts** to support **Product Owners** in identifying **Functional and Non-functional Requirement Specifications (FRS)**.
* Worked with the Testing team to conduct **User Acceptance Testing(UAT)**, developing **test cases** to verify system functionality.
* Led collaborative **JAD** sessions to gather requirements, align stakeholders, and drive effective solution development.
* Participated in the **Agile Scrum** requirement-gathering phase of the **SDLC**, leveraging **JIRA** to develop comprehensive

## User Stories.

* Collaborated with **Data Architecture** teams on **Snowflake** and **Star Schema** data modeling.
* Experienced in **data modeling**, **source-to-target mapping**, and **data profiling**, collaborating with stakeholders to design efficient database structures and ensure data integrity.
* Managed end-to-end **ETL process** using **Talend** and **Alteryx** for seamless **data migration** from **SQL Server** to **MS Azure**

cloud database, ensuring **data integrity**, optimizing performance, and collaborating with cross-functional teams.

* Demonstrated expertise in integrating **Data Bricks** with cloud platforms such as **Azure, AWS, and Google Cloud**, leveraging cloud services for scalable and cost-effective data processing.
* Designed and implemented Azure-based data solutions using **Azure SQL Database**, **Azure Data Lake**, and Azure Data Factory for efficient data storage, processing, and analytics.
* Proficient in **SQL queries** for **Oracle, MS Office, MS SQL Server,** and **MySQL** databases, optimizing performance, developing complex queries, and ensuring **data integrity**.
* Worked on complex ad-hoc SQL queries using **Joins**, **DML**, **DDL**, **pivots**, **views**, **constraints**, and functions using **Oracle**, **SQL Server**, and **MySQL**.
* **Analysed over one million rows** of healthcare data, and created interactive dashboards using **Power BI, Tableau,** and

**SSRS**, delivering actionable insights for data-driven decision-making.

# TECHNICAL SKILLS

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| --- | --- |
| **Healthcare Expertise:** | FHIR, HL7 Interoperability Standards, HIPAA, Information Analysis and System Design, Strategic Applications of IT in Healthcare, Clinical & Business Intelligence, Healthcare Operations and Data Management, Population Health Management, Power BI Dax Queries, Clinical Decision Support System, Gap Analysis, Data Migration, Risk Management and Mitigation, Advanced Data Analytics, Evidence-based healthcare, Electronic Health Record, Hospital Information Systems, FACETS. |
| **Languages:** | SQL, XML, Python, T-SQL. |
| **Databases:** | MySQL, SQL Server, Oracle, MS Access. |
| **EHR Systems:** | Epic, Cerner Citrix, clinical WORKS. |
| **Tools:** | Tableau, Power BI, SAS Software, MySQL Workbench, Microsoft Office, Databricks, Snowflake, MS Azure Cloud, Google Cloud, AWS Cloud, JIRA, Informatica, Talend, R Studio, IQVIA LAAD, Symphony APLD, Patient-level Data Analysis, NRx/TRx Forecasting, Formulary Analytics, Access & Affordability Analytics, Gross-to-Net Models, Claims Adjudication, Payer Data IntegrationMS Project, SAP Crystal Reports, Looker, R. |
| **Clinical Coding:** | ICD, CPT, SNOMED CT, ICD-10-CM, ICD-10-PC, CDISK, GCP, QA/QC, CRF, FDA |

**PROFESSIONAL EXPERIENCE**

## Client: Elevance Health, Indianapolis | November 2023 – Till Date

## Role: Sr Data Analyst/ Data Scientist

## Project: Data Migration for Health Information Exchange (HIE)

**Responsibilities:**

* Led the data migration efforts for **EHR records from legacy systems like Cerner**, ensuring seamless transfer of patient data from on-premise SQL servers to a Health Information Exchange System.
* Developed and optimized **complex SQL queries, stored procedures, and indexing strategies** to enhance data extraction, transformation, and validation processes for migration.
* Utilized **Power BI, SSRS, and Tableau** to create interactive dashboards and reports, providing insights into **data integrity, completeness, and migration status**.
* Proficient in **Cerner Command Language (CCL)** for querying, extracting, and analysing clinical and financial data within the **Cerner Millennium EHR system**, ensuring accurate reporting and data-driven decision-making.
* Implemented efficient **Agile** and **Waterfall** methodologies, overseeing project timelines and achieving tangible enhancements in deliverable turnaround and product quality.
* Wrote and optimized **ServiceNow** queries to extract, analyze, and report ITSM-related data, ensuring efficient resolution of issues and data-driven decision-making.
* Developed LSTM and N-BEATS models for demand forecasting, improving MAPE by 23% over traditional models.
* Implemented generative AI solutions using GPT-4 for customer support automation, reducing resolution time by 35%.
* Built NLP pipelines using BERT and transformers to extract insights from unstructured documents (EMRs, feedback).
* Applied Mixed Integer Programming with Gurobi for logistics route optimization, reducing costs by 18%.
* Deployed ML models and ETL pipelines using Databricks (PySpark) and Snowflake in production.
* Developed interactive web maps and apps using ArcGIS Online to communicate spatial information to a broad audience, enhancing data accessibility and understanding.
* Designed and maintained geodatabases in ArcGIS for efficient data storage, retrieval, and version control. Performed advanced **ad hoc analysis** using **statistical techniques**, data visualization tools, and custom queries, driving data-driven decision-making and operational improvements.
* Conducted **user acceptance testing (UAT)** to validate the functionality and performance of the migrated data in the context of the healthcare marketing campaign.
* Expertise in implementing **data standardization** and **mapping techniques** for interoperability and consistency across diverse data sources.
* Developed and executed a comprehensive **data migration strategy**, encompassing **data extraction, transformation**, and loading processes to facilitate seamless interoperability between healthcare entities.
* Skilled in **collaborating** with cross-functional teams and stakeholders, managing project timelines and delivering successful outcomes.
* Worked with longitudinal IQVIA and Symphony APLD datasets to identify patient adherence patterns, treatment switching behavior, and payer influence on prescription volume.
* Developed Market Access dashboards to track copay utilization, reimbursement trends, and step therapy barriers using Tableau and Power BI.
* Integrated payer claims data with EHR and prescription datasets to drive affordability strategy and support value-based care initiatives.
* Knowledgeable in **data encryption, data anonymization**, and compliance with **data protection** regulations.
* Proficient in using collaboration and project management tools such as **JIRA** and **Confluence**.
* Applied **micro statistical techniques** to healthcare data analysis, yielding useful insights and conveying them through compelling **charts, graphs, and visualizations**.
* Ensured data quality and consistency by leveraging **data dictionaries,** enabling data-driven decision-making, and enhancing data integrity.
* Proficiently utilized **SQL** to develop and optimize complex queries, implement **data validation**, perform **data elimination**, **data transformation**, and ensure data security in clinical trial data integration.
* Proficient in designing and developing scalable data integration frameworks using **ETL** and **API** methodologies.
* Executed seamless **C-CDA data migration** in an HIE system using **Ms Visio** and **QlikView**, ensuring **accurate mapping**

and data integrity for efficient patient data transfer.

* Managed the migration of large-scale big data workloads using Azure services like **Azure HDInsight** and **Azure Databricks**, optimizing data processing and analytics capabilities in the cloud environment.
* Assisted in the design and implementation of **Azure DevOps** release pipelines, enabling seamless deployment and monitoring of data solutions across various environments.
* Demonstrated expertise in **SAS/SQL** programming, perform data manipulation, analysis, and reporting tasks.
* Familiarity with **PMO** principles and processes, enabling effective **project management**.
* Experience in **N printing, Qlik view/Qlik Sense** Reporting as N Printing is the most advanced report generation, distribution, and scheduling application for **Qlik.**
* Utilized **cloud platforms** such as **AWS, Azure, GCP** for data storage and processing.
* Developed and implemented **complex SAS** programs to clean, transform, and integrate large datasets from various sources for statistical analysis.

**Tools:** SQL, Power BI, Tableau, Oracle DB, XML, Talend, MS Azure Cloud, Snowflake, JIRA, Agile/Scrum.

## Client: State of Connecticut, Connecticut | September 2021 – October 2023

## Role: Sr Data Analyst/Data Scientist

## Project: Public Health Data Warehouse and Data Migration

**Responsibilities:**

* Possess and maintain an extensive comprehensive knowledge of business, products, programs (including provider data, networks, etc.), **corporate organizational structure** (including functional responsibilities), and basic research principles/methodologies and **SQL development**, including **T-SQL, stored procedures, indexing, and query optimization**, ensuring efficient database performance and streamlined data retrieval..
* Led the integration and optimization of **ServiceNow** within the data migration and API integration projects, utilizing ServiceNow’s capabilities to automate workflows, manage incidents, and ensure smooth data transitions between systems.
* Developed time-series forecasting models for public health trend analysis using Python (statsmodels, Prophet).
* Designed optimization workflows for resource allocation in vaccination centers using Gurobi.
* Integrated Snowflake and Databricks to automate public health reporting pipelines at scale.
* Performed exploratory data analysis and data profiling using Python and SQL across over 100M rows of claims and clinical data.
* Managed **end-to-end data migration** projects, applying **SDLC** methodologies and **ETL p**rocesses to seamlessly transition and integrate data **from SQL Server to cloud-based storage solutions (Azure Data Lake Storage - ADLS)**, ensuring seamless data transformation, compliance, and system integration..
* Collaborated with stakeholders to define requirements and **user stories**, effectively managing project scope using **JIRA.**
* Performed data modelling techniques to design and develop **Entity Relationship Diagrams (ERDs)** using **Star Schema and Snowflake Schema** for databases.
* Customized the **Policy Governance framework** to suit the unique needs and context of the organization, ensuring a tailored approach that maximized its effectiveness.
* Proficient in implementing and optimizing **payor management systems**, such as **claims** processing software, payment portals, and **EDI interfaces**.
* Performed data conversions between various GIS formats and coordinate systems to ensure compatibility and data interoperability.
* Developed custom map templates and layouts for reports and presentations, tailored to specific project requirements.
* Utilized symbology, thematic mapping, and data classification methods to effectively visualize and communicate spatial patterns and trends.
* Collaborated with healthcare providers to validate **EDI transaction sets**, ensuring seamless data interchange for efficient claims processing.
* Designed and implemented secure and compliant cloud architectures on **AWS, Azure, and GCP,** adhering to industry best practices and regulatory requirements, such as **GDPR** and **HIPAA**.
* Led seamless data migration and **API integration**, utilizing Agile methodologies, **Scrum meetings**, and technical expertise to ensure efficient system integration and data transfer.
* Overseeing public health data **warehouse** implementation, **migration,** and ensuring **secure data transfer**, **regulatory compliance**, and **data integrity** through **data governance** frameworks.
* Ability to fulfill **customer analytic requests**, creating customer-centric data visualizations using claims, clinical, hospital financial, provider, and member data.
* Utilized **MicroStrategy** to analyze **structured** and **unstructured data**, driving data-informed strategies and enhancing organizational performance.
* Proficient in designing and implementing **source-to-target** data mappings, ensuring accurate and efficient data integration and transformation.
* Experienced in informatics environments including **SQL Server**, **Oracle**, **Postgres**, **Hadoop,** and **Databricks**.
* Reporting and analytic and visualization tools such as **SSRS**, **Tableau**, **Power BI**, **Microsoft Power BI**, **MS Office**, and

## Excel.

* Used **DAX** function in **Power BI** for various fact calculations for efficient data visualizations to satisfy business needs. **Tools**: SQL Server, MS Excel, AWS Cloud, Google Cloud, Databricks, SSIS, JIRA, SSRS, Crystal Reports, Apache Spark, Python.

## Client: Biogen Inc, Massachusetts | January 2020 – August 2021

## Role: Senior Data Analyst

## Project: Data Integration for Healthcare Marketing Campaign

## Responsibilities:

* + Efficiently utilized **Cerner applications (Citrix workspace, EPIC, Health Quest, Relay**) to access claims account servers, streamlining healthcare claims processing and improving operational efficiency.
	+ Collaborated with data engineers to design ETL processes that load and transform data from various sources into

## Azure SQL Data Warehouse.

* + Led migration projects from legacy systems to **Oracle Exadata**, ensuring seamless data transfer and minimal disruption to business operations.
	+ Utilized **project management** tools and methodologies, such as **Agile(Scrum)** and **Waterfall,** to plan and track project progress, ensuring adherence to project timelines and budget.
	+ Utilized **user story mapping** techniques to visualize and prioritize features, creating a shared understanding of the product roadmap and development priorities.
	+ Created data migration strategies and conducted **impact analysis** for data transfers between **Teradata and Oracle database** systems.
	+ Implemented **data mapping** and **conversion strategies** to ensure proper alignment and compatibility between legacy and new data structures.
	+ Developed and executed comprehensive **data validation** and **quality assurance** procedures to ensure integrity and consistency of migrated data.
	+ Conducted **Data Validation, Data Analysis, Data cleansing** to identify and correct errors, inconsistencies, and missing values in the data.
	+ Expert business analyst in **XML, JSON**, and **RDF,** enabling seamless data exchange, transformation, and semantic interoperability for enhanced business processes and information integration.
	+ Extensive experience in utilizing **API** frameworks and technologies such as **REST, SOAP**, or **JSON**-**RPC** to build efficient and interoperable **API**s.
	+ Conducted thorough review of **SQL** queries, focusing on table creation, trend analysis, pivot tables, and list reports generation

**Tools**: MySQL, MS Access, Power BI, MS Excel, SAS Software, 3M Encoder, Tableau, Talend, Databricks, JIRA.

## Client: Eton Pharmaceuticals, Illinois | December 2017 – November 2019

## Role: Senior Data Analyst

## Project: Clinical trials data analysis and integration

**Responsibilities:**

* + Led clinical trials data migration, ensuring accuracy and integrity using **data management systems**, **EDC** tools, and adherence to **GCP** guidelines.
	+ Supported product serialization, track, and trace systems & processes, **Electronic Data Interchange (EDI)**, **Advance Shipping Notice**, and associated challenges and risks impacting the U.S. pharmaceutical supply chain.
	+ Collaborated cross-functionally, defining requirements, analyzing **CRF**s, **AE**s, and protocol deviations, and validating data accuracy per regulatory guidelines for successful migration.
	+ Implemented a **HIPAA-compliant clinical data decision support system** with **validated** and **modeled** data, enabling secure and accurate analysis for informed decision-making.
	+ Conducted **source-to-target** data mapping for data migration activities.
	+ Utilized the **data dictionary** as a reference for **data profiling, data lineage analysis,** and **impact assessment** during data management and data integration projects.
	+ Utilized industry-standard data modeling techniques such as **Entity-Relationship (ER) modeling** or **Unified Modelling Language (UML)** to create conceptual, logical, and physical data models.
	+ Developed and optimized **Apache Spark** jobs within **Data Bricks** to perform data transformations, aggregations, and machine learning tasks.
	+ Included **metadata** such as source systems, data owners, and data custodians in the **data dictionary** to facilitate **data governance** and accountability.Led a team in upgrading the **Oracle Exadata** environment to the latest version, resulting in improved security features, enhanced performance, and better hardware utilization.
	+ Integrated **Azure Data Lake** with **Azure Data Factory** to automate data movement and transformation processes, reducing manual intervention by 40%.
	+ Worked on sunsetting legacy DB and performed **Data Migration** functions to **Databricks** mounted on **Google Cloud**.
	+ Implemented dimensional modeling techniques, such as **star schema** or **snowflake schema**, for data warehousing and business intelligence projects.
	+ Designed and implemented efficient **extraction, loading,** and, **transformation(ELT**) processes to migrate campaign- related data with accuracy and completeness.
	+ Developed comprehensive **Business Requirements Documents (BRDs**) to capture and document business needs
	+ Helped perform data review and analysis from various complex data sources and dashboard reports to identify discrepancies and patterns using **Power BI** and **MS Office applications.**
	+ Skilled in **data analysis, wrangling**, **cleansing**, and **transformation** using **SQL queries** and scripting languages like

**Python with Numpy, Pandas and Matplotlib libraries or R** for efficient data preparation.

**Tools:** HIPAA, EHR, AWS, Oracle DB, XML, Power BI, Talend, MS Azure Cloud, Snowflake, JIRA, S3, SAS, ETL, Informatica, SQL, Power BI, Tableau.

 **Client: Tata Consultancy Services Limited (TCS), IND July 2015 - June 2016**

 **Role: Assistant System Engineer/Data Analyst**

 **Responsibilities:**

* Developed and implemented automation scripts using PowerShell to streamline application development processes, enhancing efficiency and reducing manual intervention.
* Deployed code for URL status management, ensuring secure communication via HTTPS and monitoring application ports for optimal performance.
* Designed and executed a storage management solution by developing scripts to identify and delete long-pending folders based on modification dates, incorporating a double-confirmation mechanism to verify deletion lists through email notifications.
* Utilized Tableau Desktop to create interactive and insightful dashboards, enabling data-driven decision-making and visualization of key metrics.
* Published and managed dashboards on Tableau Server, ensuring seamless access for stakeholders and monitoring server jobs to maintain system performance.
* Applied machine learning techniques to analyze large datasets, identifying patterns and trends to support predictive modeling and data-driven insights.
* Developed and deployed machine learning models to automate data processing tasks, improving accuracy and reducing turnaround time for analytical outputs.
* Integrated machine learning algorithms with Tableau dashboards to provide advanced analytics, such as forecasting and anomaly detection, enhancing the depth of data insights.
* Collaborated with cross-functional teams to gather requirements, design data solutions, and deliver actionable insights through a combination of automation, visualization, and machine learning.
* Conducted exploratory data analysis (EDA) to identify key variables and relationships, leveraging statistical methods and machine learning to uncover actionable insights.
* Automated data cleaning and preprocessing workflows using Python and PowerShell, ensuring high-quality data for analysis and model training.
* Monitored and optimized Tableau Server performance, ensuring smooth operation and timely delivery of dashboards and reports to end-users.
* Implemented machine learning pipelines to process and analyze structured and unstructured data, enabling real-time insights and decision-making.
* Enhanced data visualization capabilities by integrating machine learning outputs into Tableau dashboards, providing stakeholders with advanced analytical tools.
* Continuously improved automation scripts and machine learning models based on feedback and evolving business needs, ensuring scalability and adaptability.

**Environment**: Proficient in Python, R, SQL, Tableau, Power BI, Machine Learning (Scikit-learn, TensorFlow, PyTorch), Data Visualization, Statistical Analysis, and Big Data Tools (Hadoop, Spark).

 **Client: Sutherland, Hyderabad, India May 2014– Jun 2015**

 **Role: Data Analyst**

 **Responsibilities:**

* Developed Spark streaming model which gets transactional data as input from multiple sources and create multiple batches and later processed for already trained fraud detection model and error records.
* Extensive knowledge in Data transformations, Mapping, Cleansing, Monitoring, Debugging, performance tuning and troubleshooting Hadoop clusters.
* Involved in converting Hive/SQL queries into Spark transformations using Spark RDDs, Python and Scala.
* Developed DDLs and DMLs scripts in SQL and HQL for creating tables and analyzing the data in RDBMS and Hive.
* Researched and recommended suitable technology stack for Hadoop migration considering current enterprise architecture.
* Worked on ETL process to clean and load large data extracted from several websites (JSON/ CSV files) to the SQL server.
* Collecting and aggregating large amounts of log data and staging data in HDFS for further analysis. Used Sqoop to transfer data between relational databases and Hadoop.
* Wrote Hive Queries for analyzing data in Hive warehouse using Hive Query Language (HQL).
* Analyzed data stored in S3 buckets using SQL, PySpark and stored the processes data in Redshift and validated data sets by implementing Spark components

**Environment**: Spark, Hive, Python, HDFS, Sqoop, Tableau, HBase, Scala, MySQL, Impala, AWS, S3, EC2, Redshift.

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