

# Rishi Pandey

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As a passionate **Data Engineer** with over **3 years of experience**, I specialize in transforming raw data into valuable insights through innovative **data pipelines** and robust **database solutions**. Armed with a **Master's in Systems Science and Engineering** from the **University of Ottawa**, I've led projects that automate **ETL processes**, optimize **database performance**, and design scalable **data architectures**. My expertise spans **SQL**, **Python**, and cloud platforms like **Azure**, **AWS**, and **GCP**, allowing me to tackle complex data challenges.

## Technical Skills

<b>Programming Languages:</b> SQL, NoSQL, Python (Pandas, NumPy, PySpark)	<b>Data Warehouse:</b> Azure SQL Databases, Azure Blob Storage, Amazon Redshift, Snowflake, Google Big Query, Amazon S3
<b>Databases:</b> MySQL, PostgreSQL, MongoDB	<b>Workflow Management:</b> Apache Airflow
<b>ETL Tools:</b> Azure Data Factory, AWS Glue, Databricks	<b>Visualization:</b> Power BI, Matplotlib, Seaborn
<b>Big Data:</b> Apache Spark, Apache Kafka, Hadoop	<b>Testing:</b> Docker, Jenkins, Github Actions

## Experience

### eHospital, University of Ottawa

Jul 2024 – Present

#### Data Engineer

- Creating a **RESTful API** using **Flask** to facilitate secure access to the **MySQL database**, allowing multiple users to interact with the database without requiring direct admin access.
- Implemented **user registration and authentication** features, enabling users to sign up, log in, and receive authentication tokens for accessing protected **API endpoints**.
- Designed **API endpoints** for **CRUD operations**, allowing users to manage patient records, schedule appointments, and communicate with healthcare providers.
- Integrating **Azure Data Factory (ADF)** to fetch healthcare data from the API using **HTTP-linked services** for **ETL pipelines**.
- Processing and storing transformed data into **Azure Data Lake** and a **data warehouse** for advanced analytics and reporting.

### ETL Developer

May 2023 – Dec 2023

#### University of Ottawa

- Analyzed **business data** for a **healthcare web app** to deliver immediate **preventative care information** to patients.
- Implemented **data ingestion pipeline** using **AWS Glue** to extract and transform patient data by using **Amazon S3**.
- Utilized **Amazon Redshift** to store and manage the transformed data, enabling efficient **querying and analytics**.
- Built **Power BI dashboards** and monthly reports to visualize core data, reducing manual reporting work by hours each week.

### Azure Data Engineer

Jan 2021 – Aug 2021

#### Infosys Limited

- Developed and maintained end-to-end operations of **ETL data pipelines** and worked with large data sets in **Azure Data Factory**.
- Researched and implemented various components like **pipeline**, **activity**, **mapping data flows**, **data sets**, **linked services**, **triggers**, and **control flow**.
- Performed extensive **debugging**, **data validation**, **error handling mechanism**, **transformation types**, and **data cleanup analysis** within large datasets.
- Collaborated with **DevOps Engineers** to develop automated **CI/CD** and **Test-driven development pipelines** using **Azure** as per client standards.

### Data Engineer

Jul 2019 – Aug 2020

#### Promofox Digital

- Gathered and **analyzed** data from various **digital marketing channels** to **optimize marketing strategies**, **improve campaign performance**, and achieve **business goals**.
- Responsible for **data integrity**, **completeness**, and **reliability** by implementing **data validation processes**, **cleaning datasets**, and **resolving data discrepancies**.
- **Optimized** MySQL and PostgreSQL performance using advanced **indexing** and **partitioning**, improving data retrieval speed.
- Used **Apache Spark**, **Azure Data Lake**, and **Databricks** to **transform** and **aggregate** marketing data, supporting the development of prebiotic suspensions and calcium tablets.
- Streamlined data **loading** and **organization** in **Azure Synapse**, delivering actionable insights for product innovation.
- Configured **Azure Monitor** to identify and resolve pipeline issues, enhancing overall **operational efficiency**.

## Education

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### University of Ottawa

*Masters in Systems Science and Engineering — GPA: 3.36/ 4.0*

*Major: Computer Engineering*

## Certifications

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- PL 300: Microsoft Certified Power BI Data Analyst Associate
- Ongoing DP 203: Microsoft Azure Certified Data Engineering Associate

## Projects

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### Ongoing Project- Jason Moving

- Integrating and modeling data from **Excel** into **Power BI**, creating a unified and accurate **data model** to support **reporting and analysis**.
- Working with **DAX (Data Analysis Expressions)** for measuring **KPIs** such as **delivery times**, **route optimization**, **fuel efficiency**, and **customer satisfaction scores**.
- Collaborating with the **operations manager** to create interactive **dashboards** that provided real-time insights into **delivery status**, **fleet performance**, and **package tracking**.

### Azure Data Factory Data Pipeline using Databricks, Azure SQL Database and Azure Data Lake

- **Used Azure Data Factory** to fetch **ECDC Covid-19 data**, which is then transformed through **Azure Data Flow**, **Databricks**, and **HDInsight**. The processed data was loaded into **Azure SQL Database**, where it was analyzed and visualized using **Power BI**.

### Uber Big Data using Google Big Query, Python, Mage AI ETL Tool

- Developed **ETL pipelines** with **Mage AI** for **automation** and **efficiency**.
- Leveraged **Python** for **data extraction**, **transformation**, and **loading**.
- Optimized **data storage** and **querying performance** using **Google BigQuery**.

### Exploratory Data Analysis using Python's (NumPy, Pandas, Matplotlib and Seaborn)

- Leveraged **Python libraries** such as **Pandas** for **data manipulation**, **NumPy** for **numerical operations**, and **Matplotlib/Seaborn** for **advanced data visualization** to identify patterns and insights that could enhance marketability.

### Canadian Tire Retail Sales Exploratory Data Analysis

- Integrated multiple **data sources** to ensure comprehensive and accurate reporting.
- Implemented **data models** and created complex **measures** using **DAX**.

### Scalable Web Application Deployment with NGINX, Docker and CI/CD

- Used **NGINX** as a reverse proxy and load balancer and **Docker** for containerization across development, testing, and production environments.
- Implemented a **CI/CD pipeline** to automate build, test, and deploy processes using tools such as **Jenkins** and **GitHub Actions** for CI/CD automation.