

# Ritesh Somashekar

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## Technologies

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- **Programming Languages:** Python, SQL, R, JAVA, C
- **Data Engineering Tools:** PowerCenter, Precisely Data360, Precisely Assure, AWS (S3, Lambda, Athena), Databricks, PySpark, Microsoft SQL Server, MySQL
- **Data Analysis & Visualization:** Pandas, NumPy, Scikit-Learn, Tableau, Power BI, Excel (Formulas, VBA)
- **Other Tools:** Git, Jupyter, Microsoft Power Platform (Power Apps, Power Automate)
- **Techniques:** Data Pre-processing, ETL, Data Warehousing, Statistical Analysis, Agile methodologies, Data Visualization, Machine Learning, Web Scraping

## Experience

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### Graduate Research Assistant

Costello College of Business

Fairfax, VA

August 2024 – Present

- Designed **Python and R-based algorithms** to investigate social cohesion and community coping behaviors during disaster scenarios using large-scale real-world datasets.
- Leveraged graph-based analytics to uncover pattern insights and utilized ensemble models to forecast trends, achieving an **RMSE of 0.89**.
- Visualized findings using **R and Tableau** to support stakeholder understanding and strategic research goals.

### Data Engineer

Carelon Global Solutions (Elevance Health)

Bangalore, India

May 2022 – Aug 2023

- Automated **20+ agile** end-to-end ETL pipelines for **provider and consumer analytics**, focusing on **invoice balancing and dashboard reporting** using Python, Informatica PowerCenter, Precisely (Assure, Data360), and AWS.
- Built and deployed **web crawlers to parse over 400K XML/JSON-based healthcare reports**, enhancing data availability for downstream applications **with maximum efficiency and cutting manual overload by 90%**.
- Engineered **Python-based data quality scripts and complex SQL queries**, improving efficiency by **60% in the Edward Profiling** project and reducing manual interventions. Developed **Tableau and Power BI dashboards** to present provider insights and performed root cause analysis for performance anomalies.

### Associate ETL Engineer

October 2020 – Apr 2022

- Played a key role in the Seven Plus Locations project by **automating Exploratory Data Analysis & Data Profiling pipelines** using **Python** and visualizing healthcare record data in **Tableau and Power BI**.
- Developed algorithms for **automating medical invoice processing**, improving claims balancing accuracy and **reducing error rates by 70%**.

## Education

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### George Mason University

MS in Data Analytics and Engineering, GPA:3.93/4.0

Aug 2023 – May 2025

**Related Courses:** Analytics and Decision Analysis, Business Analytics,,Data Mining, Viz using Tableau, Advance Machine Learning, Neural Networks , Natural Language Processing, Applied Statistics

## Projects

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**Agentic AI-Based Ticket Automation System** | Agentic AI | SecureGPT | AWS | JIRA | NIST Compliance | Agile

- Designed an autonomous AI system that monitors cybersecurity anomalies and auto-generates JIRA service tickets aligned with SLA policies.
- Implemented agent-to-agent handshakes to streamline ticket triage with 93% automation accuracy, ensuring production-readiness..

**Analyzing Diabetes Dynamics using Machine Learning** | Python | R | EDA | Web Scraping | MongoDB | Databricks

- Conducted cluster-based segmentation and applied time-series forecasting to identify pre-diabetic patterns in U.S. population groups.
- Achieved strong model performance with an RMSE of 0.87 and MAE of 1.45, highlighting predictive accuracy for healthcare intervention planning.