Karthikeyan Venkatachalam

CONTACT

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SKILLS

Python, SQL, DBT, Snowflake, Pandas, NumPy, REST API Integration, Tableau, Power BI, Confluence, Jenkins, Airflow, PySpark , GitLab, Jira, Terraform, CI/CD

Data Governance & Quality: Data quality management, data validation & testing, data lineage, automation & process optimization, risk & control testing, regulatory reporting, stakeholder management

Services: S3, EC2, Glue, Redshift, Lambda, Athena, CloudWatch, serverless architecture, event-driven pipelines, queueing and buffering concepts

Domain Knowledge: Financial services, regulatory reporting, risk and compliance data pipelines, banking data architecture

Senior Analytics Engineer experienced in designing and maintaining scalable, automated data pipelines and analytics solutions using Python, SQL, dbt and AWS. Skilled in modernizing legacy workflows, implementing data governance and ensuring high data quality for reliable, decision-ready datasets. Adept at guiding teams to deliver maintainable, testable and robust analytics frameworks across enterprise environments.

WORK HISTORY

Capgemini UK (Client: UK Major Investment Banking)
Senior Analytics Engineer (Jan 2021 – Sep 2025)

- Directed end-to-end analytics transformation & data reliability program for regulatory, risk and management reporting.
- Remediated SQL and Python transformations, correcting critical data discrepancies that impacted downstream reporting.
- Re-architected analytics transformations into a layered dbt structure, improving readability, lineage and long-term maintainability of the analytics layer.
- Developed automated data validation and reconciliation frameworks to detect completeness, uniqueness and consistency issues early in the pipeline.
- Built Python-based frameworks for exception handling, reconciliation and audit support, significantly reducing manual data checks and operational effort.
- Deployed trigger-based orchestration using AWS-native services, enhancing fault tolerance, recoverability and traceability of batch data processes.
- Implemented Git-based development workflows including branching strategies, pull request reviews and version-controlled releases for SQL, dbt and Python assets.
- Mentored engineers and enforced analytics engineering standards, improving code quality through structured reviews.
- Worked closely with business, risk and technology stakeholders to validate business logic and ensure datasets were trusted for regulatory submissions and executive decision-making.

Outcome: Reduced post-processing data errors by ~45%, accelerated report generation by 25% and cut manual reconciliation effort by ~30%, establishing a test-driven, version-controlled analytics foundation across the program.

Capgemini UK (Client: Major US Manufacturing Company)
Analytics Engineer (Jul 2017 – Dec 2020)

- Led the design and delivery of data ingestion and transformation pipelines as part of the migration of a large on-prem Oracle data warehouse to AWS Redshift.

CERTIFICATIONS

- AWS Certified Cloud Practitioner
- SQL Expert
- Python for Data Analytics
- Snowflake
- Denodo
- AI Governance - Udemy
- Pursuing: Microsoft Azure Fundamentals (AZ-900)

- Modernized legacy ETL workflows by converting SQL and batch processes into modular, automated cloud-native pipelines enabling efficient cloud migration, improved performance and reliable data processing at scale.
- Developed comprehensive data mapping and transformation documentation, detailing source-to-target relationships, business rules and data lineage to ensure smooth and accurate migration to AWS Redshift.
- Built Python frameworks for automated reconciliation and anomaly detection to validate post-migration data accuracy.
- Established structured data governance practices, including documenting data lineage, transformation rules and metadata for manufacturing datasets, ensuring transparency, auditability and consistency across reporting pipelines.
- Configured monitoring and alerting with AWS CloudWatch and maintained pipeline documentation, lineage and transformation rules to ensure audit readiness and knowledge transfer.
- Partnered with Sales, Product, Finance and IT teams to validate transformed datasets and support UAT cycles.

Outcome: Successfully migrated 1.2B+ records with 40% fewer post-migration defects, improved batch pipeline and reduced time-to-delivery of manufacturing and operational analytics reports by 20%, enhancing production and supply chain decision-making.

Tech Mahindra (Client: Major US E-Commerce Company)

Data Engineer (Jun 2011 – Jun 2017)

- Developed and maintained workflows for Customer, Orders and Sales domains, supporting merchandising, marketing, fulfillment and customer experience teams.
- Built ingestion pipelines sourcing data from 750+ upstream transactional, web, mobile and partner systems into the enterprise data warehouse.
- Deployed automated monitoring, alerting and data quality checks to detect anomalies in customer events, order flows, pricing updates and inventory levels, reducing incident response times by 25%.
- Delivered large-scale data cleansing, transformation and reconciliation workflows, improving trust in order-level financials and customer master data.
- Optimized high-volume SQL workloads and ETL processes, reducing data processing latency and improving dashboard availability.
- Collaborated with Marketing, Merchandising, Supply Chain, Customer Lifecycle and Finance teams to ensure consistent reporting and analytics outputs.
- Created standardized ETL patterns and reusable transformation templates, ensuring consistent pipelines, faster dataset onboarding and easier maintenance across data engineering team.

Outcome: Improved data freshness for dashboards by ~20% across core e-commerce domains, reduced incidents and increased master data accuracy by ~15%, enabling timely customer insights and operational reporting.

Education:

Amrita Institute of Technology and Science, Coimbatore, India
Bachelor of Science, Computer Science