

VIGNESH VENKATAKUMAR

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EXPERIENCE

LatentView Analytics | Senior AWS Data Engineer

Sep 2022 – Dec 2022

- Developed **ETL pipelines** and **APIs** to process vehicle data and identify purchasing trends across 100+ regions with higher customer density, enabling **data-driven decisions** for the analytics team to optimize service station placement.
- Optimized **AWS infrastructure** using **serverless architecture**, **AWS Step Functions** for orchestration, and **Code Pipeline** for seamless deployments, enabling scalable, cost-effective data processing and reducing costs by 20%.
- Engineered **AWS Glue workflows** that analyzed traffic patterns and charging station usage data across 50+ regions, leading to enhanced resource allocation and improved **urban mobility services** for the client.

Deloitte | Cloud Engineer

Aug 2020 – Sep 2022

- Led a team of 3 to develop near **real-time S3 tagging** for files using **Lambda**, ensuring compliance. Integrated **serverless jobs** with **ServiceNow APIs** to **automate incident creation** on job failures and send metrics and details for enhancing **centralized system monitoring**.
- Delivered **POCs** for **containerizing** a Flask application on **AWS ECS**, enabling secure **cross-account S3 access**, and piloted **OHDSI Atlas software** on the cloud for healthcare analytics, which led to full-scale adoption.
- Designed **Data pipelines** and implemented **data modelling** for pharmaceutical vendor data using **Apache Airflow** with AWS serverless technologies reducing processing time by 25%. Received a **spot award** for flawless deployment.
- **Migrated** on-premises PubMed and Embase systems ETL processes to AWS, leveraging **Glue** and **Airflow**, enhancing data availability and streamlining operations for medical research systems.
- Enhanced **database performance** and availability by migrating on-premises systems to Aurora PostgreSQL using **AWS DMS**. Reduced operational costs by 50% and migrating historical data for vendor projects.
- Launched **CI/CD pipelines** using AWS CodePipeline, **CloudFormation**, and **GitHub Actions**, ensuring repeatability in testing and dependency management. **AWS SAM** builds and triggered deployments enhanced deployment speed.
- Completed **solo project** ahead of schedule with zero errors, automating Kaggle dataset extraction for data access via **S3** and **Athena** for research purposes.

Cognizant | Associate

May 2016 – Jul 2020

- Led the installation and maintenance of **TrackWise** on AWS using **EC2**, **ELB**, and **Oracle RDS**, ensuring high availability and robust failover strategies.
- Configured **CloudWatch Agent** on EC2 to capture TrackWise logs and created Lambda and **CloudWatch Alarms** for **real-time monitoring** and alerts, reducing response time by 20% and improving system reliability.
- Automated data distribution workflows using **AWS Step Functions**, integrating manual approvals and notifications with **SNS** for efficient data orchestration. Improved process efficiency by reducing manual efforts.
- Designed and executed system changes for **TrackWise** and **Crystal Reports**, managing upgrades, reporting, and documentation. **Collaborated with clients** to gather requirements, deliver demos ensuring system improvements.

PERSONAL PROJECTS

- **Car Rentals:** Developed a SQL based Flask web application to manage rentals, bookings, and inventory, optimizing performance with stored procedures, triggers, and indexes. Deployed on AWS using fully integrated CI/CD pipeline.
- **Restaurant Analytics:** Built a machine learning app using Extra Trees and Random Forest to predict restaurant ratings and online order feasibility providing insights. Deployed on AWS EC2 with Cloudformation and Codepipeline.
- **Insurance Processing:** Created a Step functions workflow using AWS Lambda, SNS, DynamoDB and API Gateway automating claim processing and approvals, reducing manual processing times and encouraging automation.
- **Cost Prediction:** Built machine learning models for predicting insurance costs, with data preprocessing, feature engineering, and model optimization, offering insights for healthcare planning.

SKILLS AND CERTIFICATIONS

- **Cloud Services and DevOps:** EC2, S3, Lambda, RDS, IAM, Glue, ECS, CloudFormation, EBS, DMS, Docker, GitHub, GitHub Actions, Terraform, AWS Codepipeline.
- **Data Engineering and Management:** PostgreSQL, MySQL, Oracle, NoSQL (DynamoDB), RedShift, ETL pipelines, Microservices, Step Functions, Apache Airflow, Apache Spark, Databricks, Big Data, Apache Kafka, DBT, Snowflake.
- **Programming and Tools:** Python (Boto3, PySpark, Flask, Pandas, Scikit-learn), C, Visual Studio, TrackWise 8.7, Crystal Reports, Tableau.
- **Certifications:** AWS Certified Data Engineer Associate, AWS Certified DevOps Engineer Professional, AWS Certified Solution Architect Associate, Cloud Computing Certification from Great Learning, DataExpert.io

EDUCATION

University at Buffalo, Master of Science in Data Science
Anna University, Bachelor of Engineering in Electrical and Electronics

May 2024
May 2016