Benny Daniel Tharigopala

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SUMMARY

Technically astute Data Engineer with a strong background in fast-paced environments. Demonstrated expertise in integrating processes, technologies, and data engineering principles to drive business objectives. Proficient in data modeling, warehousing, quality assurance, and complete data pipelines with a passion for optimizing data ingestion, storage, and processing for actionable insights

WORK EXPERIENCE

Rimot   **September 2023 – February 2024**
DevOps Developer   *Halifax, Canada*

- Continuous Integration/Continuous Deployment (CI/CD) with AWS: **Orchestrated automated builds, tests and deployments** for Typescript and Python codebases on AWS Elastic Container Service (ECS), with Bitbucket pipelines resulting in 80% reduction in manual deployment efforts.
- Cloud Architecture Automation with Infrastructure as Code (IaC): Configured and maintained Infrastructure in the cloud leveraging **AWS CDK and Docker Compose to enable consistent, scalable and reproducible deployments across environments.**
- Automated Data Analytics and Visualization: Analyzed **spatial and boat sensor data** using interpolation & calculus methods to generate relevant metrics for voyages, aiming towards the electrification of fishing vessels for a First Nations (Membertou) fleet. Automated the entire application end-end with Python, AWS SNS for notifications, SQS for queuing capability, SES to deliver emails and S3 to store artifacts of the analysis resulting in elimination of manual analytics and chart plotting efforts by 100%.

Climative   **January 2023 – April 2023**
Student Software Developer   *Halifax, Canada*

- SQL Triggers: Implemented **SQL triggers** to automate the population of a designated table with real-time records from a source table, leveraging **efficient joins with a dimension table**. Eliminated manual intervention, ensuring up-to-date data availability for stakeholders.
- Data Processing and Automation: Developed **Python scripts** to automate the execution of audits for a large volume of records (100,000+) in an energy simulation modeling software (Hot2000). Implemented **Extract, Transform, and Load (ETL) processes** to prepare and transform datasets for data engineering activities, enabling efficient data retrieval for a web-based user interface.
- Business Intelligence: Collaborated with cross-functional teams to create an extensive **Power BI** report focusing on energy and emission-related data analysis for a Canadian province. The report involved in-depth visualizations and utilized various Power BI features such as **measures, columns, bookmarks, and DAX queries** to enhance interactivity and functionality.

AstraZeneca Pvt. Ltd.   **May 2018 – July 2021**
Associate Engineer   *Chennai, India*

- Intelligent Cubes Generation: Constructed **in-memory datasets** in MicroStrategy for dynamic aggregation and support for derived metrics which resulted in an improvement of 40% for the time taken to render data in the dashboards.
- Business Intelligence Development: Utilized **pass-through functions** and engineered dashboards with more than **300 Key Performance Indicators (KPIs)** to assist stakeholders in making informed business decisions and deriving business insights from both historical and real-time data in the order of millions of records.
- Data Engineering & Job Orchestration: Implemented a new content pipeline consisting of multiple data layers using **Spark** and **automated data Extraction, Transformation and Load (ETL) jobs with Apache Airflow** while eliminating manual data deployment tasks by more than 70%

Glosys Technology Solutions Pvt. Ltd.   **December 2017 – April 2018**
Research and Development Intern   *Chennai, India*

- Devised a model to calculate optimal inventory volume that should be maintained in healthcare facilities thereby minimizing perishable equipment waste by at least 50%, leveraging **Economic Order Quantity** mathematical models and Machine Learning algorithms, including **Neural Networks**.
- Developed a web application for Healthcare personnel to maintain optimal inventory levels of perishable products with minimal human intervention, thereby reducing waste by at least 65 %.

EDUCATION

Master of Applied Computer Science   **September 2021 – April 2023**
Dalhousie University   *Halifax, Canada*
Key Courses: Advanced topics in Software Development, Data Management, Warehousing and Analytics, Advanced
Web Services, Serverless Data Processing, Process of Data Science and Advanced Topics in Computer Networks.

Bachelor of Technology - Information Technology   **August 2014 – May 2018**
Sri Venkateswara College of Engineering   *Chennai, India*
Key Courses: Programming and Data Structures, Web Programming, Design and Analysis of Algorithms and
Database Management Systems

TECHNICAL SKILLS

Programming Languages:	Python, Java and Kotlin
Databases:	SQL, NoSQL, Neo4j and VectorDB
Cloud Services:	Amazon Web Services, Google Cloud Platform and Databricks
Web Technologies:	ReactJS, Redux, Microservices, REST APIs, FastAPI, GraphQL and Kafka
Version Control:	GitHub, GitLab, Atlassian Bamboo and Bitbucket
Workflow Management:	Jira, GitHub Actions, Jenkins, Airflow and Confluence
Deployment Platforms:	DigitalOcean, Vercel, Kubernetes and Dockers
Development Methodologies:	SDLC, Agile, Test Driven Development and Design Patterns
Business Intelligence:	MicroStrategy, Power BI & IBM Cognos
Test Frameworks:	JUnit, Mockito, Pytest and Jest
AI Frameworks:	Tensorflow, Langchain and Streamlit

PROJECTS

Halifax Breweries ⚙ | React Native, NodeJS, ExpressJS and MongoDB   **August 2022**
- A cross-platform mobile application built for a stock management personnel to facilitate **Create, Read, Update and Delete (CRUD) operations**. Primary requirement involved features that allowed the personnel to update the facings of relevant brands in each store and derive business insights from the data through charts.

Serverless Bed and Breakfast ⚙ | ReactJS, NodeJS, AWS and GCP   **July 2022**
- A multi-cloud serverless application with room reservation, order management, chatbot, tour reservation and analytics features. Worked with **Google's Firestore (NoSQL)** for storing and retrieving data. Built with AWS (Lambda, Lex, DynamoDB and Cognito) & Google Cloud Platform (Cloud Function, Pub/Sub, Firestore and Data Studio).

Distributed Database Management System ⚙ | Java & Google Compute Engine,   **June 2022**
- The project involves a comprehensive system that simulates the working of a real **distributed database**. With a focus on scalability and reliability, this project provides a secure user authentication mechanism, ensures **reliable transaction processing**, manages logs for auditing purposes, facilitates **data modeling and reverse engineering tasks**, and provides analytics capabilities for deriving meaningful insights from the distributed data.

Trippy ⚙ | Spring Boot, MySQL, DesigniteJava and QScored   **April 2022**
- A web application built using Spring Boot, MySQL and DesigniteJava for Ride sharing, Vehicle Management and Ride Bookings for two User Personas, namely, Vehicle Owner and Customers. Primary emphasis on Git **Continuous integration and Development (CI/CD)**, Test Driven Development and elimination of Code Smells.

CERTIFICATIONS

1. AWS Certified Developer – Associate. [**Issued October 2023**]

2. AWS Certified Solutions Architect – Associate. [**Issued April 2023**]

3. HashiCorp Certified: Terraform Associate (002). [**Issued February 2023**]

4. AWS Certified Cloud Practitioner. [**Issued October 2022**]

5. MicroStrategy - Introduction to Big Data certification. [**Issued April 2020**]