
MOHAMMAD RAEZ

BACKEND DEVELOPER / DATA ENGINEER

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Github: <https://github.com/raez21> |

SUMMARY

Dynamic and accomplished Data Engineer with a robust foundation in Backend Engineering and Software Development. Skilled in designing and optimizing data pipelines, scalable backend systems, and APIs. Proficient in database administration, ETL methodologies, and adept utilization of cloud technologies. Experienced in delivering scalable solutions aligned with organizational objectives. Strong problem-solving and communication skills. Led and mentored junior team members, fostering growth and collaboration.

SKILLS

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| • Languages: Python, C/C++, SQL, Javascript | • Tools: Jupyter, SSIS, SSMS, PgAdmin, Pandas, |
| • Frontend Development: HTML, React, Next.js | TensorFlow, PyTorch, Visual Studio |
| • Backend Development: Node.js, Express.js, | • Cloud Services: Azure, Synapse, Azure Data |
| Django, Flask, Rest API, ORM, SQLAlchemy, ELK | Factory, AWS, Terraform |
| Stack, Celery, RabbitMQ, Redis, Prometheus, Grafana, | • Version Control and CI/CD: Git, GitHub, |
| Alation, Elasticsearch | GitLab, GitHub Actions, GitLab, CI/CD Pipelines |
| • Databases: PostgreSQL, Microsoft SQL server, | • Containerization and Orchestration: Docker |
| SQLite, MySQL, MongoDB | • Distributed Computing: Apache Spark, Hadoop, |
| • Data: Databricks, ADLS, Airflow, Pyspark, SSIS, | Celery, OpenMP, MPI |
| Terraform, Data Engineering, ETL, ELT, Data | |
| Cataloguing, Data Analysis, Data modelling | |

EXPERIENCE

Freelance Developer

12/2022 to Present

Remote

- Currently leading a project focused on violin feature analysis, comprising multiple computer vision models. Violin features like origin, age etc. are predicted by detecting tree ring lines on the violin's

surface. Achieved significant cost reductions for the client by replacing expensive software with a custom-developed solution.

- Spearheaded the backend development efforts for ShapeRoute, a cutting-edge fitness tracker mobile application. Architected and implemented the database design and executed key features and functionalities. Devised a formula that accurately depicts the overall fitness of users based on various body statistics

Senior Data Engineer

09/2021 to 08/2022

Tredence Analytics

Bengaluru, India

- Assisted in the migration from an on-premise APS system to Microsoft Azure, resolving 100+ data and count mismatches through Root Cause Analysis (RCA) and implementing fixes for seamless cloud migration.
- Designing and implementing data models that meet the requirements of both the business and analytical teams utilizing SQL, SSMS, and SSIS for seamless integration.
- Single handedly developed a Recon Framework in Spark and Databricks to compare tables between on-prem APS and Azure Synapse databases.
- This initiative resulted in a significant reduction in manual hours previously spent on data validation tasks for approximately 400 large tables.
- Identifying performance bottlenecks in Azure data pipelines and databases, implementing optimizations using tools such as Data Factory and Azure Synapse to improve data processing speed, scalability, and efficiency.
- Documenting data engineering processes, architectures, and solutions, and sharing knowledge with team members to ensure transparency and facilitate collaboration.
- Developed a comprehensive data catalogue using Alation for a leading American discount department store chain, optimizing data management processes and enhancing business intelligence capabilities.
- Utilized Alation's Python APIs to seamlessly update and maintain metadata collection, data dictionary creation, and lineage information, ensuring real-time accuracy and accessibility.
- Achieved a 40% reduction in data discovery time and improved cross-functional collaboration by providing clear lineage information, effectively minimizing data-related communication gaps.

Software Developer, ML Engineer, Data Engineer

12/2018 to 05/2021

TATA ELXSI

Trivandrum, India

- Played a key role in developing AIVA, an intelligent video analytics platform focusing on content curation and object action event meta-tagging.
- Orchestrated backend integration of diverse ML modules. Utilized Flask to design a user-friendly web interface and implemented RESTful APIs. Implemented and optimized interactions with MongoDB. Used Docker for containerising and orchestrating the deployment of various components of the AIVA platform

- Engineered asynchronous task queues with Celery and RabbitMQ, enabling distributed video processing and achieving a 30% reduction in processing time, enhancing overall platform efficiency.
- As a C++ developer, contributed to the development and maintenance of an in-house lightweight video player, the 'Advanced Adaptive Micro Player (AAMP),' designed for the playback of IP-Linear, IP-VOD, and Cloud DVR content in RDK-V boxes used by one of the largest American telecommunications and media conglomerate.
- Conducted root cause analyses to identify and resolve user-reported issues related to playback, functionality, or performance, utilizing debugging tools and techniques in C++ development.
- Collaborated with team members to investigate complex issues, implement necessary code changes, and ensure code quality through rigorous local testing and version control management using Git/Github.

EDUCATION AND TRAINING

Master of Science: Big Data And High-Performance Computing (Distinction) **09/2023**
University of Liverpool United Kingdom

Bachelor of Technology: Computer Science And Engineering **04/2018**
Model Engineering College Kochi, India

PROJECTS

- Software Developer, University Dissertation Project May 2023 – Sep 2023
- Team Lead, University Group Project Jan 2023 – March 2023
- Data Engineer, Personal Project Oct 2023 – Nov 2023