

HAMZA AHMAD

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SUMMARY

Data-driven engineering leader with a proven track record of managing large cross-functional teams while also comfortable being hands-on with complex code and architecture. Demonstrated success in delivering software, data, and analytics solutions while optimizing cost-efficiency and performance, and adeptly translating intricate concepts into actionable strategic roadmaps. Known for fostering a culture of collaboration and innovation by empowering my teams to tackle challenges creatively while providing guidance and support to ensure alignment with strategic objectives.

Languages: Python, SQL, Golang, Rust, Scala, R, JavaScript, MATLAB, C++

Data Warehousing: Postgres, Snowflake, BigQuery, Redshift, Athena, Microsoft SQL Server, MySQL

Distributed Computing: Spark (PySpark), Databricks, EMR, Hadoop, Hive, Kafka, Flink, Cassandra, Elasticsearch

Infrastructure/Orchestration: Docker, Kubernetes, Terraform, Vault, Airflow, dbt, Temporal

Cloud: AWS, GCP, Azure, Digital Ocean

Collaboration: JIRA, Confluence, LucidChart, Miro, Loom

AI/ML: SciKit-Learn, MLlib, TensorFlow, Keras, PyTorch

PROFESSIONAL EXPERIENCE

KOMODO HEALTH, San Francisco, CA

STAFF DATA ARCHITECT, OFFICE OF THE CTO

08/2024 – Present

- Architecting Komodo's Healthcare Map and how it powers our suite of products (MapLab, MapAI, Sentinel, Aperture, Genie, Pulse, Aperture, and Prism), enabling healthcare stakeholders to track patient journeys, identify care gaps, and address unmet needs.
- Optimize data workflows across Engineering and Product teams; implement incremental refreshes, enhance data quality across the org, and streamline interactive workloads within our platform for faster, cost-effective, and more frequent data processing. Tech stack includes: AWS, Snowflake, Databricks, Temporal, Airflow, Kubernetes, and others.
- Drive R&D initiatives; explore emerging technologies and advise on adopting modern data stack technologies like open table formats (ie. Apache Iceberg and Delta), catalogs (Unity, Polaris, etc) to future-proof data architecture.
- Collaborate with product teams to refine technical solutions that support Komodo's mission to reduce the global burden of disease.

VIDEOAMP, Los Angeles, CA

ARCHITECT

12/2022 – 04/2024

- Led a comprehensive re-architecture of all digital data pipelines resulting in increased consistency and reducing cost by 90% for downstream reporting while accommodating a 100% increase in data volume.
- Redesigned digital metadata architecture across Snowflake and Postgres to introduce attribute history tracking, name overriding, and increased performance for downstream reporting use.
- Implemented an ELT model which reduced storage and processing costs by 20% and enabled seamless re-processing without reloading large volumes of data into Snowflake.
- Enhanced data health and monitoring systems, reducing data discrepancy exposure by 50% through proactive alerting and granular data availability reporting.
- Migrated Meta (Facebook) cleanroom infrastructure from GCP Cloud Composer to a more secure and isolated Astronomer (Apache Airflow) instance to comply with contract requirements.
- Optimized Amazon Thursday Night Football data pipeline to ensure 99% accuracy by eliminating duplicate events in source data.
- Collaborated with Google to build out a YouTube Unique Reach Audience (URA) cleanroom which allowed for reach/frequency media planning using person-level audiences while maintaining end-user privacy.
- Implemented person-level identity enrichment as part of a real-time pixel event pipeline.
- Re-engineered legacy NodeJS APIs into Golang gRPC and REST APIs with Gin.

DIRECTOR OF ENGINEERING

08/2021 – 12/2022

- Led and managed 28 engineers across 4 cross-functional teams to develop and execute on a strategic roadmap that aligned with the company's business objectives. Teams included data engineers, backend engineers, frontend engineers, and support engineers.
- Oversaw the design, development, and implementation of software solutions in the domains of Digital Data Processing, Audiences, Targeting, and Data & Customer Operations
- Improved client enablement operational efficiency by developing self-service Retool applications which reduced support ticket volume by 20% and improved turnaround time by 30%.
- Established data onboarding, data processing, and security standards which enhanced organizational efficiency and security.
- Provided career guidance and mentorship to direct reports and other sub-organization members, including facilitating comp/equity recommendations and effectively communicating attrition risks, fostering a culture of professional growth and retention.

HORIZON MEDIA, New York, NY**LEAD ARCHITECT, MEDIA TECHNOLOGY & DATA**

10/2020 – 08/2021

- Built Horizon's enterprise data platform and proprietary identity framework on a multi-cloud infrastructure (AWS, GCP, and Azure) with an emphasis on scalability, automation, security, and data privacy.

DIRECTOR, DATA ENGINEERING (HORIZON NEXT)

08/2018 – 10/2020

- Rebuilt data and advanced analytics infrastructure from the ground up with an emphasis on scalability, automation, rapid prototyping, and information security.
- Built custom Python framework to abstract away complex ETL processes which dynamically generates procedural code for data acquisition (vendor APIs, cloud storage, server log files, etc), schema detection, data transformation and standardization, and ingestion into custom cloud data lake (Amazon S3) and cloud data warehouses (Amazon Redshift and Google BigQuery).
- Deployed multiple Kubernetes clusters using Rancher for automated deployment, scaling, healing, and orchestration of containerized applications which improved uptime and decreased costs.
- Deployed Apache Airflow on Kubernetes for scalable workflow orchestration of data processes.
- Built a pixel tracking solution to measure digital advertisements run on OTT/CTV devices (Roku, Hulu, Amazon FireTV, etc).
- Built a JavaScript-based tracking solution to measure client site traffic and online conversions. Implemented tracker using tag management systems (Google Tag Manager, Adobe Launch, Tealium IQ, etc).
- Migrated production databases, applications, and cloud resources from legacy shared AWS environment to an isolated and secure environment.
- Led security audits with the Horizon Media InfoSec team, achieving SOC2, HIPAA, and HITRUST certifications.

GROUP M WORLDWIDE, New York, NY**SENIOR DATA ARCHITECT**

11/2017 – 08/2018

- Led a team of 5 to build a custom big data management and advanced analytics platform using Matillion ETL, Amazon Redshift, EC2, EMR, Lambda, SNS, and custom automated features built in Python.
- Deployed custom Python service to scrape 90,000 sites in 2 hours, automatically ETL data to Redshift, and feed into custom Python Flask UI and dashboard hosted on EC2 to be used by multiple programmatic media buying agencies.
- Built a 100 terabyte-scale data lake using PySpark on EMR joining log-level data from multiple Ad Servers, DSPs, CRM systems, DMPs and then build custom random forest machine learning algorithms for bid-stream analytics to optimize the AppNexus programmatic buying platform and find efficient bidding strategies.
- Built automated analysis, decision-making, and report generation features to the proprietary Marketing Mix Modeling platform using Python and R.
- Collaborative with Facebook data scientists in a hackathon to build a tool for measuring and optimizing ad creative quality, enhancing ad effectiveness, and boosting brand lift.

DATA ARCHITECT

06/2016 – 11/2017

- Managed the planning and development of databases, reports, and dashboards and maintained existing automotive industry client relationships as the implementation lead.

- Led onshore and offshore teams to maintain applications and ensure quality assurance of data and settings.
- Developed and deployed database applications with SQL, SAS, and syndicated research tools for ETL of diverse data sources (macroeconomic, marketing, business, finance, survey, etc.) for Marketing Mix Modeling.
- Implemented Python scripts and Excel VBA macros to automate data management and generate reports, saving up to 16 hours per week.
- Designed and implemented Tableau dashboards for data visualization of retail sales, media and marketing performance, website traffic, and brand health trends.
- Attended key design meetings, provided support, and resolved database architecture questions.
- Documented data architecture requirements and QA guidelines.

CHEGG**TUTOR**

08/2015 – 11/2017

- Provided individualized online tutoring in mathematics, physics, Excel, process engineering, and programming, developing goals, designing strategies, and preparing materials based on student needs.
- Monitored and evaluated student progress through various methods, documenting and communicating development to ensure effective learning outcomes.

NEW JERSEY INSTITUTE OF TECHNOLOGY / RUTGERS UNIVERSITY, Newark, NJ**RESEARCH ASSISTANT**

02/2014 – 05/2015

- Developed mathematical and computational models of *C. elegans*' locomotive neural network and simulated the system using MATLAB, Simulink, C++, and parallel processing, to aid in neurobiological studies.
- Reduced result time from 4 weeks to 5-10 seconds, cutting lab costs and equipment expenses.

UNIVERSITY HOSPITAL (Formerly UMDNJ), Newark, NJ**RESEARCH ASSISTANT**

11/2012 – 05/2013

- Applied statistical analysis techniques using SQL, Excel, and VBA to interpret big data from clinical studies regarding alcohol addiction and its effect on the midbrain.
- Personalized statistical analysis techniques applied using MS Excel and SAS allowed for simplification of big data sets from experimental procedures to find trends for projecting.

HACKENSACK UNIVERSITY MEDICAL CENTER, Hackensack, NJ**RESEARCH ASSISTANT**

01/2012 – 05/2012

- Collaborated to collect patient care data and produce technical reports for supervisors.
- Documented weekly technical reports regarding tobacco cessation, sepsis, malocclusion, and ischemic CVAs with a team of 24 researchers across three US research hospitals.

NEW JERSEY INSTITUTE OF TECHNOLOGY, Newark, NJ**UNDERGRADUATE TUTOR**

09/2010 – 05/2012

- Collaborated with counselors to provide individualized and group tutoring for undergraduate students in mathematics, finance, physics, chemistry, and programming.
- Developed instructional materials, observed student progress, and provided evaluations and feedback.

EDUCATION**Bachelor of Science in Applied Mathematics and Biology**

NEW JERSEY INSTITUTE OF TECHNOLOGY, Newark, NJ