Asad Awadia

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Skills

- Strong programming skills in Kotlin/Java, and Golang
- Experienced with AWS, gRPC, Rest, Docker, Kubernetes, Terraform, Postgres, ClickHouse, Elasticsearch, and Redis
- Knowledgeable of data stores such as RocksDB and Lucene, and vector databases such as PG Vector with HNSW
- Comfortable with transport protocols like TCP, HTTP, WebSocket, and UDP

Experience

Senior Software Developer – Database – Tanium **[April 2024 – Present]**

- Architected and deployed a ClickHouse platform on Kubernetes, leveraging block storage for hot data and object storage for cost-efficient cold data
- Implemented horizontally scalable ClickHouse sharding with configurable client-side shard rotation and a gRPC-based cluster topology service for dynamic discovery
- Established the team's engineering foundation by building local development workflows, CI/CD pipelines, automated dependency management, deployment processes, operational runbooks, and access management practices
- Onboarded new analytics datasets through version-controlled schema migrations, incorporating data retention policies (TTLs) and automated hot/cold storage tiering
- Led the investigation and remediation of production deletion failures, hardening the deletion pipeline with improved monitoring, least-privilege operational tooling, and comprehensive audit attribution
- Developed a durable incremental synchronization framework that replicated changes from an external data service into ClickHouse using timestamp-based delta synchronization, eliminating expensive full-table syncs
- Built a system for process tree generation from process start events by reconstructing parent-child PID relationships across ClickHouse datasets, enabling process lineage analysis
- Designed and implemented a Terraform-based VPC peering module to establish secure private connectivity between customer’s VPC and Amazon EKS cluster’s VPC

Senior Software Developer – Database – TraceLink **[October 2021 – April 2024]**

- Built a query tracking and analysis component to identify and diagnose slow read queries
- Developed a service discovery and clustering mechanism to automatically form Kubernetes pods into Raft nodes
- Improved read query performance by batching key lookups and fetching data from RocksDB in parallel

- Designed an experimental query engine using BitSets to accelerate predicate matching
- Introduced HTTP debugging and diagnostic endpoints to improve system visibility and simplify troubleshooting

Software Developer - DevOps – Miovision **[December 2020 – October 2021]**

- Developed a Go-based AWS Lambda functions to receive webhooks and automatically terminate long-running EC2 instances to reduce cost
- Built and maintained multiple CI/CD pipelines using GitHub Actions
- Provisioned and managed AWS infrastructure using Terraform

Software Developer - Backend – TextNow **[May 2018 – December 2020]**

- Built a high-throughput event ingestion service in Go using gRPC to persist internal events to Kafka in Protobuf format
- Developed a low-latency backend service in Go backed by Amazon DynamoDB to power TextNow's Phonebook
- Designed and implemented a JWT-based authentication service for integration with an API gateway, enabling secure, stateless authentication
- Built the backend for a cross-platform contacts synchronization system, providing a consistent view of contacts across web, iOS, and Android clients
- Reduced conversation list latency by replacing iterative database queries with efficient batched query execution
- Refactored internal APIs to a new schema version while maintaining full backward compatibility for existing clients

Education

Master of Computer Science - Wilfrid Laurier University

Bachelor of Computer Science and Accounting and Finance - University of Waterloo

Writings & Other

- Similarity Search using Vector Embeddings - https://blog.aawadia.dev/2024/03/16/vector-search
- Codec for Lexicographical encoding of data-types in RocksDB - https://blog.aawadia.dev/2026/05/31/ormish-rocksdb/
- Indexing Semantic Versions in RocksDB - https://blog.aawadia.dev/2024/01/02/index-semver-rocksdb
- Teak: A Kotlin inspired programming language – https://www.npmjs.com/package/@teaklang/teak
- Backend development course on Udemy - https://www.udemy.com/course/backend-development-with-vertx