

Anas Khan

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SUMMARY

Senior software engineer with 7+ years building backend systems for high-scale products, improving reliability, scalability, and cost efficiency while delivering user-facing features that improve learning experience.

TECHNICAL SKILLS

Domains: Backend, DevOps, Analytics

Languages: TypeScript, Node.js, Golang, Python, Java, SQL, HTML/CSS/JS

Frameworks: Express, Gin, Spring Boot, Flask, Beego, Langchain

Communication: REST, Kafka, RabbitMQ, ActiveMQ, SQS, Protobuf, socket.io

Databases: Redis, MongoDB, MySQL, Postgres, Cassandra, ClickHouse, ElasticSearch, Pinecone (Vector DB)

Infra: AWS, GCP, Jenkins, Prometheus, Grafana

Data Analysis: BigQuery, Metabase

Pipelines: Apache Flink, Apache Beam

LLMs: OpenAI, Anthropic, AWS Bedrock

EXPERIENCE

Wayground (formerly Quizizz) | Bangalore, India | June 2021 – Present

Senior Software Engineer | June 2024 – Present

- Set technical direction for long-term game-state storage evolution via a multi-quarter persistence program, shifting core game domains to MongoDB as source-of-truth with Redis as cache; reduced data-loss risk during Redis failures and cut Redis footprint from **143GB to 30GB** (shards **15 to 7**, **37 instances** removed, **~\$58k/year** saved).
- Shaped engineering operating standards by writing ERDs that became org-wide references, promoting stacked-PR delivery for safer large changes, and leading P0 response practices across stakeholder updates, RCAs, backfills, and user-impact closure.
- Mentored engineers on product-aware system design, scoping, prioritization, and stakeholder communication; contributed to bar-raiser and system-design hiring loops; and helped translate sprint and quarterly product goals into clear engineering execution.
- Built the games' archival pipeline from scratch to control MongoDB and Cassandra growth and index bloat (**~500GB**); moved older data to S3 and scaled data deletion throughput from **12M/day to 40M/day**, archiving **~1B games** and **~73B responses** for **\$50k+/year** compute and storage savings.
- Strengthened core platform real-time gameplay infrastructure by improving WebSocket reliability, raising measured connection success from **~80% to ~98%**.
- Built the backend foundation for the company's real-time classroom game strategy, enabling rapid rollout of energizer and bell-ringer formats through shared multiplayer orchestration, transport, reporting hooks, and configurable tick- or event-driven gameplay.

Software Engineer | June 2021 – June 2024

- Built and scaled core Student AI backend capabilities for gameplay guidance and answer explanations across subjects and grade levels (using Bloom's taxonomy)
- Shipped AI-powered Interactive Video workflows that ingest YouTube transcripts and generate timestamped questions, creating a supply of **~60k** activities.

- Built AI-based question recommendation using inferred topic/subtopic embeddings in a vector database (Pinecone), enhancing quiz creation through smart, context-aware suggestions.
- Spearheaded end-to-end delivery of **Quiz Service** (peaking at **~90K RPM**), owning content lifecycle APIs with integrated monitoring and alerting.
- Delivered premium gameplay capabilities (new question types, extra life, partial scoring, and question-type auto-conversion), contributing to **~20%** adoption growth for paid users.
- Built backend systems for a real-time classroom whiteboard used during gameplay, enabling live teacher-led drawing and optional student annotations; contributed to a Flink-based big-data pipeline powering low-latency teacher reports across game, player, question, class, and skill-level performance.
- Integrated Moengage/Braze lifecycle systems and partnered cross-functionally with product, platform, and marketing teams.
- Strengthened backend foundations by setting up key infra components (Redis content cache, Redis Sentinel for canvas data, WireGuard VPN for dev access).

Crio.Do | Bangalore, India | Jan 2019 – May 2021

Software Engineer | Jan 2019 – May 2021

- Joined as the 6th employee and helped evolve the backend from a post-MVP build into a stable, scalable production platform.
- Owned the assessment subsystem end-to-end: designed and built a dedicated microservice, defined short-term OKRs, and coordinated a small team to deliver outcomes.
- Drove migration of the platform architecture from GCP to AWS with AWS architects and contractors, executing with minimal downtime.

PROJECTS

soup · *Go*lang · github.com/anaskhan96/soup

- Web scraping package in Go, with an interface similar to BeautifulSoup in Python
- Featured in GitHub's trending packages in Go
- Appreciated by the Go community with 2k+ stars on GitHub

Distributed Key Value Store · *Python, Flask, Zookeeper*

- In memory key value store with coordination between master and slave servers using Zookeeper
- Backups performed in a cyclic order along with reincarnation of servers
- Ensures fault tolerance and high availability between the storage servers

EDUCATION

PES University · *B.Tech in Computer Science* · Aug 2015 – May 2019

Bangalore, India · CGPA: 8.72