

# Housseem Eddine Zerrad

## Staff Software Engineer & Cloud Architect

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### SUMMARY

Staff Software Engineer and Cloud Architect with 8 years building cloud-native backend and data platforms. I design and evolve distributed systems end-to-end — service boundaries and API contracts, event-driven pipelines, schema design, and production operations on Kubernetes across AWS and GCP. Primarily Go and Python, with a focus on data correctness, query performance, and reliability.

### EXPERIENCE

#### Staff Software Engineer, Ordaos Bio

October 2024 - Present · New York, United States - Remote

- Own backend and data-platform surface area across multiple Python services (FastAPI APIs, ETL/ML pipelines, job monitor, CLI tooling), reporting directly to the CTO on platform direction.
- Redesigned ingestion and retrieval paths in the core data pipeline, improving end-to-end performance by ~70%.
- Authored and drove team adoption of a Redis caching strategy (endpoint selection, TTLs, invalidation) across production APIs.
- Defined shared platform conventions for service boundaries and API contracts, reducing integration friction and enabling safer, faster iteration across teams.

#### Lead Software Engineer, Master Technology Computers

July 2023 - October 2024 · Algeria - On-Site

- Defined and rolled out engineering operating standards to improve delivery throughput and reduce rework.
- Tech-led a multi-developer delivery from planning through production rollout, coordinating scope, sequencing, and quality gates to ship on schedule.
- Designed a cloud-native, serverless-first architecture to scale predictably while controlling operational cost.
- Introduced coding standards and review checklists, reducing code review cycle time by ~15% while improving consistency and maintainability.

#### Senior Software Engineer - Full-Time, Master Technology Computers

October 2020 - July 2023 · Algeria - On-Site

- Architected and led the migration from a monolithic Elixir backend to a service-oriented architecture, allowing the platform to scale past previous load ceilings.
- Built a distributed processing system replacing a synchronous request path, materially increasing sustainable throughput.
- Developed a secure authentication system with two-factor authentication and user identity management.
- Implemented a CI/CD pipeline that reduced time-to-deployment from 1 day to ~40 minutes.

#### Founding Engineer - Contract, Fortune.app

October 2023 - April 2024 · Montreal, Canada - Remote

- Led the backend migration from JavaScript to TypeScript, tightening type safety across the API layer and reducing the runtime error rate over the migration window.
- Designed and implemented multi-tier subscription logic and real-time currency exchange for the iOS app's backend.
- Built and maintained REST APIs with OAuth-based authentication.
- Wrote automation scripts and conducted code reviews to keep delivery velocity stable as the team grew.

## Senior Software Engineer - Contract, IntegrationOS

July 2022 - July 2023 · Ontario, Canada - Remote

- Designed and built the stream, queue, and workflow primitives underpinning the integrations platform, scaling to billions of events.
- Established the contract conventions for source and target integrations, reducing the time required to onboard new integrations.
- Built 10+ source integrations and 6+ target integrations, including GitHub and Shopify.
- Top external contributor to IntegrationOS's open-source Core repository.

## Software Engineer - Contract, FelixSmart Inc.

March 2020 - October 2020 · Calgary, Canada - Remote

- Debugged and reconstructed the smart-aquarium firmware after a critical regression, restoring expected behavior in production.
- Established real-time connectivity between the aquarium hardware and the Firebase backend, materially reducing the error rate in customer telemetry and improving mobile-app feedback latency.

## SELECTED PROJECTS

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### CloudCare — EHR for Algerian private clinics

Co-founder & Engineering Lead. In development.

- Own the platform architecture for an electronic health-records system built around in-country data residency for the Algerian private-clinic market.
- Built authentication/authorization (Keycloak, OPA, a custom Go auth-broker), application-layer encryption (HashiCorp Vault + cloud KMS), and a PostgreSQL/MinIO storage layer with audit and golang-migrate schema evolution.

**Stack:** Go, PostgreSQL, MinIO, Keycloak, OPA, Vault, AWS KMS.

### cronkit — A CLI for auditing cron schedules

Open source. Go. Released January 2026.

- CLI that explains, validates, and audits cron expressions and whole crontab files (overlaps, runaway frequencies, command hygiene); outputs text/JSON reports and ASCII timelines, distributed via Homebrew, .deb, .rpm, and the AUR.

**Stack:** Go.

[github.com/hzerrad/cronkit](https://github.com/hzerrad/cronkit)

### EnsVAE — Ensemble Variational Autoencoder for Recommender Systems

MSc research. Python, TensorFlow. Published 2020.

- A variational-autoencoder method for merging multiple independently-trained expert models into a shared latent space, with the base models swappable per domain; applied to recommendation via a GloVe + GRU pairing.

**Stack:** Python, TensorFlow, Keras.

[Paper — IEEE Xplore](#) · [github.com/hzerrad/ensvae](https://github.com/hzerrad/ensvae)

## SKILLS

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**Languages** Go · Python · TypeScript · SQL

**Architecture & Systems** System Design · Software Architecture · Distributed Systems · Microservices · Event-Driven Architecture · Domain-Driven Design · REST APIs · gRPC

**Data** PostgreSQL · Redis · MongoDB · Elasticsearch · BigQuery · Data Modeling · Query Optimization · ETL

**Cloud & Infrastructure** AWS · GCP · Kubernetes · Docker · Terraform · Helm · Linux · CI/CD · Infrastructure as Code

**Reliability & Operations** Observability · OpenTelemetry · Prometheus · Grafana · Reliability Engineering · Performance Tuning

## EDUCATION

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**MSc Computer Science, Artificial Intelligence** — Ferhat Abbas Sétif University 1 · 2020

## **LANGUAGES**

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English — Fluent · French — Fluent · Arabic — Native