

JESÚS CARLOS ACOSTA ROCHA

SOFTWARE ENGINEER

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Professional Summary

Senior Software Engineer and AI-focused Technical Leader with extensive experience building, scaling, and operating **production-grade platforms** across **Health, Education, Logistics, and Industrial domains**. Proven track record delivering **AI and ML systems from proof of concept to large-scale production**, working closely with **Data Science teams**, and deploying solutions across **cloud-native infrastructures (AWS and Azure)** using **Kubernetes, CI/CD automation, and strong DevOps practices**. And dog lover.

Skills

Python

Javascript

Go

Dart

Terraform

K8s

AWS

Azure

Angular

Docker

Websites, Portfolios, Profiles

- github.com/clioo

Work history

Software Engineer AI, 08/2024 to Current

McGraw Hill – Texas

- **AI Assistant for teachers**, using **OpenSearch** for scalable search and retrieval, and implementing a **Supervisor pattern** to orchestrate multi-step LLM workflows and ensure controlled, reliable agent behavior.
- Development for an **AI Writing Assistant** serving students across the **US and Europe**, supporting large-scale, enterprise-grade educational platforms.
- Designed and implemented scalable backend services using **FastAPI**, emphasizing performance and long-term maintainability.
- Built and maintained **asynchronous processing pipelines with Celery** to support AI-driven and data-intensive workflows.

- Deployed and operated production systems on **Kubernetes** across **AWS and Azure**, ensuring high availability, scalability, and fault tolerance.
- Owned and executed **release management** processes, coordinating deployments and minimizing production risk.
- Implemented **monitoring, logging, and observability** for backend and AI services, improving system reliability and incident response.
- Integrated and leveraged **LangSmith** for **LLM tracing, evaluation, and monitoring**, enabling visibility into prompt behavior, model performance, and production AI workflows.
- Promoted a strong **DevOps culture**, collaborating closely with **Data Science teams** to monitor AI workflows end-to-end.
- Successfully delivered and supported **2 AI-powered products in production**, used by real users at scale.

Tech Founder | Software Engineer, 12/2022 to Current

GliaMediQ – México

- Built and scaled **AI-driven solutions for doctors preparing for medical specialization exams**, reaching **500 registered users**, including **150 paying customers**, since the platform launch in **May 2025**.
- **End-to-end product development**, covering **backend services with Django** and **frontend applications with Flutter**, delivering intuitive, responsive, and production-ready user experiences.
- Designed and implemented **AI-powered document generation workflows**, enabling automated creation of educational and clinical-support content across **70,000+ clinical cases** used by real users.
- Integrated **LangSmith** for **LLM tracing, evaluation, and monitoring**, improving prompt quality, model reliability, and observability of AI systems in production.
- Built **data scraping and data preparation pipelines** to continuously ingest and maintain a **large-scale medical knowledge base** supporting AI features.
- Developed and operated **asynchronous processing pipelines with Celery** to handle long-running AI and data-intensive tasks reliably.
- Implemented **observability and error monitoring using Sentry**, significantly reducing production incidents and improving time-to-resolution.
- Managed and scaled infrastructure using **Azure, Kubernetes, and Azure App Services**, ensuring **high availability, scalability, and cost-efficient operations**.
- Established a strong **DevOps culture** with **automated CI/CD pipelines**, enabling fast iteration cycles and safe, repeatable deployments.
- Achieved **#2 search engine ranking** for key medical education queries, driving consistent **organic user acquisition** without paid marketing.

Software Engineer L4, 09/2022 to 08/2024

Cornershop by Uber / Uber – United States (Remote)

- Developed and maintained **high-performance backend systems** using **Django and Celery**, supporting **business-critical workflows at large scale**.
- Led and contributed to a **high-throughput asynchronous marketing platform** capable of delivering **up to 5 million emails per country**, reliably and on tight delivery windows.
- Maintained and optimized **Elasticsearch clusters** to support **fast, scalable search and data retrieval** across high-traffic services.
- Collaborated with **Data Science teams** to deliver **hundreds of thousands of personalized product recommendations daily**, generated **before 8:00 AM**, directly impacting morning purchase behavior and conversion rates.
- Worked on **user incentive and retention systems**, developing incentive packages designed to **increase engagement and retain users** in highly competitive markets.
- Resolved complex **production issues** and led numerous **bug fixes across critical services**, improving overall system stability and customer experience.
- Gained deep experience operating **distributed, high-scale systems**, forming the foundation for later work in **DevOps, cloud infrastructure, and AI production systems**.
- Collaborated with **globally distributed engineering, data science, and product teams** across multiple countries and time zones, contributing to **large-scale, cross-functional initiatives**.

Software Engineer, 09/2021 to 09/2022

Cemex – Monterrey, México (Remote)

- Contributed to the development and scaling of **DCO (Digital Confirmation Order)**, a core **order-taking platform** designed to **flatten plant delivery demand curves** and optimize what concrete plants could reliably deliver to customers.
- Supported the deployment of DCO across **7 countries in 2 continents**, operating in highly distributed, enterprise-scale environments.
- Worked closely with **Data Science teams**, guiding ML initiatives **from proof of concept to full production**, ensuring models delivered real operational value.
- Led **ML model integration into production**, deploying inference services using **Kubernetes and Azure App Services** across multiple environments.
- Implemented **MLOps automation**, enabling continuous integration and deployment of ML models, reducing manual intervention and speeding up iteration cycles.
- Designed and maintained **data pipelines using Databricks**, ingesting data from the **data lake**, performing cleaning and transformation, and ensuring reliable downstream consumption across multiple projects.
- Drove the adoption of a **DevOps culture**, replacing manual, infrastructure-dependent workflows with **automated deployments and reproducible environments**, significantly improving team productivity.
- Developed a data-driven solution to **more accurately calculate concrete truck cycle times**, improving visibility into plant efficiency and enabling better delivery planning and customer

fulfillment.

- Operated production systems using **Kubernetes, Docker, Azure App Services, Azure Front Door, Python, and R**, supporting mission-critical industrial workloads.

Software Engineer, 03/2020 to 03/2022

Momenry – United States

- Served as **Technical Lead for Backend**, taking on my first formal leadership role and owning backend architecture and technical decision-making.
- Developed backend systems using **Django, Python, and Celery**, supporting complex asynchronous workflows required for mobile AR experiences.
- Built and maintained APIs to support **augmented reality (AR) experiences on mobile devices**, enabling real-time interaction between backend services and client applications.
- Successfully collaborated with cross-functional teams to **implement augmented reality technology on mobile phones**, validating technical feasibility and product vision.
- Contributed to the startup's technical narrative and execution, helping secure **\$1M USD in venture funding**, despite the product not reaching public production.
- Gained early experience in **scaling startup architecture**, backend leadership, and cross-team collaboration in a fast-paced, early-stage environment.

Software Engineer, 09/2019 to 03/2021

Softek, Ensenada, Baja California – Ensenada, Baja California

- Developed and maintained **test automation frameworks** using **Python and C#**, supporting multiple client projects.
- Collaborated closely with **SDETs** to design and implement **automated testing strategies** across diverse applications and domains.
- Automated **300+ API tests**, significantly reducing manual testing effort and improving release confidence.
- Built **53 end-to-end web tests** using **Selenium**, increasing coverage for critical user flows.
- Contributed to improving overall **software quality and delivery reliability** through scalable test automation practices.

Head of Innovation Department, 11/2018 to 09/2019

Government, Los Mochis, Sinaloa – Los Mochis, Sinaloa

- Led the **Innovation Department**, owning the design and delivery of digital solutions to track **departmental goals, public works progress, and institutional performance**.
- Designed and developed **RESTful backend services using Django REST Framework** and **frontend applications with Angular**, delivering end-to-end government software solutions.
- Built a **public works and goal-tracking platform** that enabled departments to **measure progress, track KPIs, and upload supporting evidence** for accountability and compliance.

- Supported **~100 public employees** who uploaded progress evidence **almost daily**, ensuring the platform handled frequent, real-world operational usage.
- Coordinated **4 domain reviewers (end users)** responsible for **validating submissions and reviewing evidence** produced by each department, ensuring data accuracy and compliance with institutional goals.
- Deployed and operated the platform on a **rudimentary AWS EC2 infrastructure**, gaining hands-on experience running production systems independently.
- Successfully **commercialized the platform**, selling and deploying it in **2 cities**, validating adoption and value in the public sector.
- Led **vendor integrations**, working directly with external software providers and successfully implementing **2 third-party solutions**.
- Worked extensively **on-site and outside traditional office environments**, supporting real operational needs in public infrastructure and government workflows.

Education

Bachelor's degree: Software Engineering, 09/2019

Universidad Autónoma De Sinaloa - Los Mochis, Sinaloa, Mexico

STRENGTHS

- Discipline
- Effective communication
- Teamwork