

Marco Carmona

+52 248 491 1227 hello@marcocarmona.dev marcocarmona.dev linkedin.com/in/marcocarmonadev
github.com/marcocarmonadev Puebla, MX (CST · UTC-6) Open to CDMX Available · Remote

PROFILE

Fullstack software engineer with four years of production experience across AWS cloud infrastructure, Python data pipelines, and machine learning systems. Track record of measurable impact: **65% infrastructure cost reduction**, satellite pipeline processing 1.5 years of data in **~43 seconds**, and AI-assisted extraction scaling PDF coverage **7x**. Spec before code, infrastructure as code, tests before implementation.

EXPERIENCE

Software Developer SINECTA · CONTRACT · REMOTE 2022 – Present

- Designed and implemented a complete AWS infrastructure platform using CDK; reduced costs by **65%** and standardized CI/CD with build-once / promote-many deployments.
- Rebuilt Sentinel-2 satellite imagery pipeline eliminating SentinelHub dependency; processes **1.5 years** of historical data in **~43 seconds**, daily batch under 30 min across tens of thousands of parcels.
- Trained and deployed a custom pixel-level cloud detection model on AWS SageMaker; achieved **~90% accuracy**, outperforming s2cloudless and Sentinel-2 SCL under real-world conditions.
- Built AI-assisted FIRA PDF extraction pipeline; scaled data coverage from **~10 to 70 PDFs/season** with variable-layout tolerance using pydantic-ai.

Full Stack Developer MOVING FLASHT · FREELANCE · REMOTE 2023

- Reduced quote generation from **~10 minutes to under 1 minute**; automated volume estimation, labor, and distance-based route pricing via Google Maps API.
- Deployed backend (FastAPI) and frontend (Reflex) services on Google Cloud Run via Docker.

Frontend Developer MAHESA MEXICO · FREELANCE · REMOTE 2024

- Complete implementation and deployment of company’s customer-facing website from start to launch; PHP, JavaScript, Tailwind CSS.

MILESTONES

- 2023

Electron-Phonon Coupling & Superconductivity in α -MoB₂ — Physica Scripta, IOP Publishing
Co-authored first-principles computational physics paper on pressure-driven superconductivity; responsible for data extraction, result processing, and scientific visualization.
- 2023

1st Place · Internal AI Hackathon — Sinecta
Built an LLM-powered agronomic report generator automating analysis and interpretation of field data for agricultural producers.
- 2022

Scholarship · Haciendo Ciencia en la BUAP — BUAP
Competitive academic scholarship for a first-principles study of MoB₂ lattice dynamics under pressure.

EDUCATION

Applied Physics
BUAP · Puebla, Mexico · Coursework completed
Benemérita Universidad Autónoma de Puebla. Applied mathematics, computational methods, and physical modeling. Co-authored peer-reviewed research in condensed matter physics during studies.

STACK

Languages	Python · TypeScript · JavaScript · PHP · Go · Dart
Frontend	Angular · Next.js · Astro · Flutter · Tailwind CSS · shadcn/ui · Bootstrap
Backend	Node.js · FastAPI · Fastify · Express · Hapi · Reflex
Databases	PostgreSQL · MySQL · MongoDB · Redis
Cloud & DevOps	AWS · Google Cloud · Azure · AWS CDK · Docker · Podman · Kubernetes · Git · GitHub Actions · Linux