

# Milan Patel

U.S. Citizen | [contact@milanpat.com](mailto:contact@milanpat.com) | [milanpat.com](http://milanpat.com) | [linkedin.com/in/milanopat](https://www.linkedin.com/in/milanopat) | [github.com/milanopat](https://github.com/milanopat)

## Skills

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**Languages:** Python, TypeScript, JavaScript, Java, SQL, C++

**Frameworks & Data:** Django, FastAPI, Next.js, React, Angular, Node.js, PostgreSQL, Snowflake

**AI & Cloud:** Claude SDK, n8n, RAG, prompt engineering, AWS (S3, Lambda, Bedrock), Azure (Entra ID, AD B2C)

**DevOps & Tools:** Docker, Jenkins, CI/CD, Git, pytest, Jest, Jira, Postman, Sentry, Figma, Linux

## Experience

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**Software Engineer - AI**, Cboe Global Markets – Phoenix, AZ (Remote) Mar 2026 – May 2026

- Served as lead engineer running discovery sessions and deploying automation solutions, onboarding teams across the company to Claude, Copilot, and internal RAG tools.
- Architected and deployed LLM workflows using n8n, the Claude SDK, and internal system integrations, replacing manual processes with automated pipelines that freed up team capacity.
- Identified gap in colleagues' ability to self-serve on AI tooling; established a support channel by hosting weekly office hours and authoring internal documentation, positioning the AI CoE as the company's go-to AI resource.
- Charged with surfacing AI capabilities to non-technical business users; designed and built interactive dashboards and applications backed by LLMs, putting AI-driven summarization and reasoning directly into existing business workflows.

**Software Engineer - Web**, Cboe Global Markets – Phoenix, AZ (Remote) Jul 2021 – Feb 2026

- Delivered mission-critical web applications with 24x7 uptime by designing and maintaining Python/Django services and React front-ends powering trading desk tools, listings systems, and member firm portals.
- Modernized authentication across internal and customer-facing applications, consolidating SSO, MFA, and identity lifecycle by leading the migration from a homegrown identity solution to Azure AD B2C and Azure Entra ID.
- Improved maintainability and UX across the web portfolio, measured by adoption of a unified design system and React component library, by refactoring legacy ExtJS applications and partnering with UI/UX on redesigns.
- Reduced release risk on 24x7 production services by expanding automated test coverage, hardening CI/CD pipelines, and standardizing deployment workflows across the company's codebase.
- Scaled team capability across multiple hiring cycles by mentoring junior engineers, serving as an intern mentor, and participating in interviews for intern and full-time web hires.

**Software Engineer**, DHL Global Forwarding – Tempe, AZ Oct 2020 – Jul 2021

- Integrated IBM Watson's OCR tool into Cargowise booking and document workflows to extract structured data from shipping documents, reducing manual data entry for operations teams while retaining human review for accuracy.
- Operations and customers lacked visibility into shipment status across global logistics workflows; built customer-facing and internal full-stack applications surfacing shipment data, giving stakeholders self-service access to logistics information.
- In-transit sensor data was siloed and unused for decision-making; developed IoT-driven services that ingested and processed telemetry from shipments, exposing exceptions and conditions to improve supply chain decisions.
- Internal stakeholders relied on stale, batch-based reports; integrated front-end interfaces with backend APIs and data pipelines to deliver near-real-time logistics dashboards used across operations teams.

**Dev Ops Engineer**, DHL Global Forwarding – Tempe, AZ Nov 2019 – Oct 2020

- Built and deployed POC applications for the DHL Americas Innovation Center, enabling repeatable customer-facing demonstrations of emerging logistics technologies including computer vision, IoT, and automation.
- Automated build, test, and deployment pipelines for internal logistics applications, reducing manual release effort and improving delivery consistency for application teams.
- Maintained Linux-based infrastructure and supporting tooling across development and staging environments, standardizing environment configuration to reduce drift and onboarding friction.
- Containerized services and established deployment patterns adopted across multiple internal applications, partnering with developers to streamline the path from local development to production.

- Built web and mobile applications and integrated with RFID hardware and scanners to surface real-time telemetry from new NFC, RFID, and automated weight/dim systems at DHL's Chicago Gateway, supporting a facility modernization featured in industry trade press.
- Customer integrations needed dedicated backend support; designed and implemented customer-specific REST APIs and microservices backed by SQL data stores, enabling tailored integrations that improved business performance.
- New technologies and approaches required validation before broader investment; built proof-of-concept applications to test emerging tools and architectural patterns, informing solution decisions for production projects.
- Cross-functional teams needed product and delivery support alongside engineering; partnered with product and business stakeholders to gather requirements, scope solutions, and translate them into deliverable engineering work.

## Projects

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### **Fitness Studio Operations**

- Built a multi-tenant inventory and supply-chain platform for a multi-location fitness studio franchise on Next.js, React, TypeScript, and Supabase Postgres — integrating Mariana Tek POS via real-time webhooks, handling 25k+ orders / 200k+ line items with row-level security enforcing per-location data isolation.
- Refactored the analytics stack by pushing aggregation into Postgres stored procedures with indexed hot paths, cutting page payloads from megabytes to kilobytes and bringing dashboard loads under 500ms at full data volume.

### **NPS Availability**

- Built a self-hosted Python data pipeline that discovers 627 reservable National Park Service facilities via the Recreation.gov RIDB API and captures availability snapshots every 6 hours, generating ~3,762 API calls per run across a rolling 6-month window to build a historical dataset for trend analysis.
- Built an interactive analytics dashboard that surfaces trends from the historical snapshot archive including release-day heatmaps, cancellation-window detection, and per-site "best time to book" recommendations; turning raw JSON into actionable booking intelligence across hundreds of campgrounds, permits, and timed-entry facilities.
- Developed a real-time availability and notification service that diffs each snapshot against the prior run to detect newly opened sites and notifies users within minutes of a cancellation, enabling instant booking on otherwise sold-out high-demand reservations.

### **Roam Assistant**

- Designed and built a custom Home Assistant OS image for a Raspberry Pi CM5 that provides centralized smart control over 12V vehicle systems — relay-controlled loads, Zigbee/Matter sensors, and Victron energy monitoring — accessible from any phone via a self-hosted WiFi access point.
- Engineered 8 domain-organized automation packages covering climate control, leak detection, energy management, and safety interlocks, integrating multiple protocols (WiFi, Zigbee, Matter, MQTT, UART/VE.Direct) into a unified control layer.
- Developed a custom TypeScript dashboard panel with an onboarding wizard that auto-discovers and configures Shelly wireless switches through Home Assistant's WebSocket and Supervisor APIs.

## Education

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**Arizona State University** – BS in Computer Science

Dec 2019

Software Developer's Association, Capital Investors Association, ASU Outdoors Club