

Antonio Luis A. Santos

AI Full-Stack Software Engineer

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SUMMARY

AI Full-Stack Software Engineer with 6+ years of backend development experience specializing in LLM integration, conversational systems, and API orchestration. Served as sole technical lead for a US-based luxury construction company, delivering 277 startup-style automations across CRM, finance, AI, and telephony systems and shipping a production AI operations platform monitoring 84 active projects. Skilled in Python, Node.js, OpenAI, Claude, AWS/GCP/Vercel, and Postgres.

TECHNICAL SKILLS

Languages	Python, TypeScript, Node.js, PHP
Frameworks	Django, Django REST Framework, FastAPI, Next.js, Laravel
AI / LLM	OpenAI GPT, Vision, Whisper; Anthropic Claude, Claude Code SDK; Prompt Engineering, RAG, Intent Classification
APIs	REST, Webhooks, OAuth 2.0, JWT, Bill.com, QuickBooks Online, Trello, Zapier, LightBox RE, LADBS, ZIMAS
Cloud / Infra	AWS, GCP, Vercel, Docker, systemd, nginx, gunicorn
Databases	PostgreSQL, Neon DB, Redis, pgvector, SQLAlchemy, Drizzle ORM, Prisma, Eloquent
Queues	Celery, RabbitMQ, Kombu
Testing	Playwright, Postman, JIRA, Page Object Model, Prometheus, structured logging
Security	RBAC, CSRF, input sanitization, rate limiting, prompt-injection mitigation

WORK EXPERIENCE

Full-Stack Software Engineer | Luxury Construction Company
(Freelance, US-based)

Remote | Jan 2025 to May 2026

- Built Django and Celery backend that synced invoices between Bill.com and QuickBooks Online, handling OAuth flows, task queues, duplicate prevention, and Prometheus monitoring for a multi-million-dollar operation.
- Shipped AI progress-billing tool using Next.js, OpenAI Vision, and Whisper to suggest line-item percentage completion from construction photos.
- Integrated six deterministic, human-in-the-loop Claude Sonnet tools for LA permitting workflows including drawing analysis, zoning lookup, PDF assembly, and redline response.
- Designed a 3-tier conversational AI architecture with client-side intent classification, FAQ fallback, and OpenAI API, mitigating eight prompt-injection categories and reducing LLM costs by approximately 70 percent.
- Built a .eml contract parser with append-only merge logic that preserved progress-billing data across re-parses, replacing a destructive delete-and-reinsert pattern.
- Architected and maintained 277 production Zapier automations (118 active) across CRM, finance, AI, and telephony systems, reducing manual operational work by approximately 50 percent.
- Implemented a wiki-style memory architecture backed by a markdown knowledge base to deliver context-aware AI responses across sessions.

- Led QA strategy and team development for Bell Canada's digital billboard solutions, ensuring performance, reliability, and stakeholder satisfaction across mission-critical telecom workflows.
- Strengthened QA practices through standardized code reviews, QA checkpoints, and training programs, reducing production defects by 20 percent.
- Managed high-priority escalations and troubleshooting, achieving 95 percent on-time resolution for customer-impacting incidents.
- Accelerated Agile testing and validation cycles by 15 percent through structured use of JIRA and Postman across test planning, execution, and defect tracking.
- Architected business rule engines using IBM Operational Decision Manager (ODM) to automate decisioning for regulated telecom systems under strict SLAs.
- Mentored a cross-functional team of QA engineers and developers, building leadership and technical capabilities while fostering positive work ethics and collaborative values.
- Led integration and deployment validation across engineering, design, and operations teams to ensure seamless releases and high-quality customer experience.
- Established QA metrics, documented test cases, and reported progress to align technical teams with executive stakeholders through audits, root cause analyses, and performance evaluations.

PROJECTS

Construction Ops Intelligence Hub (Next.js 15, TypeScript, Neon Postgres, Drizzle ORM, Claude Opus/Sonnet/Haiku, OpenAI Whisper, pgvector, Telegram Bot API)

- Built an end-to-end media intelligence pipeline that automatically downloaded, transcribed (Whisper), and analyzed every video, photo, and document sent by field PMs in Telegram, producing structured per-project health reports with blockers, next actions, and AI-caught observations across 74+ daily analyses.
- Engineered a multi-source correlation engine that synthesized permits, site media, Telegram chat history, phone call logs, plan set pipeline data, and PM daily reports into a single ranked project health score per project, using a Haiku and Sonnet pre-filter to eliminate cross-client noise before Opus produced the final analysis.
- Shipped a proactive alerting brain with role-based routing, suppression logic, repeating blocker escalation, permit expiry calendar, PM silence detection, and daily project summary DMs, all driven by a single nightly cron orchestrating 8 sequential pipeline stages across 84 active construction projects.

Layered AI Chatbot with Guard Rails (OpenAI API, client-side intent classification)

- Designed a 3-tier architecture (intent classification, FAQ fallback, OpenAI API) with mitigations for prompt injection, jailbreak attempts, token-limit abuse, and response injection.

Vision-Based Progress Billing Platform (Next.js, TypeScript, OpenAI Vision, Whisper, Trello API, Neon Postgres)

- Web platform that suggested construction line-item completion percentages from jobsite photos for human-in-the-loop review, integrating vision analysis with Trello-based workflow tracking.

Invoice Sync Backend (Django, Celery, RabbitMQ, Redis, PostgreSQL)

- Backend service that synced invoices between Bill.com and QuickBooks Online with OAuth flows, webhook ingestion, duplicate prevention, and Prometheus monitoring.

EDUCATION & CERTIFICATIONS

Technological Institute of the Philippines | BS Computer Engineering
IBM Operational Decision Manager, Certified Specialist

2017