Michael Castro

Freelance Software Engineer: Python, AI Integration and Automation

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SUMMARY

Freelance software engineer who builds Python backends, automation and AI integrations, and ships them with tests. Recent work includes a FastAPI and SQLite job-and-approval API with 37 automated tests, a live business site with serverless lead capture and Playwright end-to-end tests, and a CI pipeline with secret scanning and container smoke tests. Also builds and repairs websites, repairs and upgrades computers, and does reverse engineering and crypto research.

SKILLS

Languages: Python, JavaScript (Node.js), HTML, CSS, SQL, TypeScript, Rust

Backend: FastAPI, Pydantic, Uvicorn, SQLite, REST API design, workflow state machines, idempotency, Vercel serverless functions

Testing and QA: pytest, unittest, Playwright end-to-end tests, FastAPI TestClient, Lighthouse, axe-core accessibility checks

DevOps: Git, GitHub Actions, Docker (BuildKit multi-stage), Vercel, Linux

Security: Secret scanning, input validation, rate limiting, least-privilege CI, security-focused code review, reverse engineering

AI: AI integration, LangChain, LangGraph, AI agent orchestration, AI-assisted code review

Also: Website building and repair, 2D game prototypes (Godot 4, Phaser 3), computer repair and upgrades, crypto and on-chain research

EXPERIENCE

Independent / Freelance Software Engineer, Apex Freelance — 2026 to present

Southaven, Mississippi (remote) | *Selected projects*

Job-and-approval API | Python, FastAPI, Pydantic, SQLite, pytest

- Built a REST API that moves client jobs through an 11-state workflow with enforced transitions, idempotency keys, an audit log, a persistent stop switch and a budget gate.
- Delivery requires an approval bound to the SHA-256 hash of the exact payload, so edited content cannot ship on an old approval.
- 37 automated pytest tests, including restart persistence, a simulated crash mid-execution with no partial writes, backup and restore, and per-client data isolation.

Delivery pipeline and CI (private repo apex-freelance-hq) | Python, GitHub Actions, Docker

- Standard-library pipeline (spec, build, review, package) with 16 unit tests and an end-to-end run on a synthetic demo customer.
- GitHub Actions workflow: secret scan, byte-compile check, unit, API and automation tests, artifact upload, then a Docker BuildKit multi-stage build and container smoke test.
- The secret scan fails the build on credential patterns (GitHub, AWS, Slack and Google keys, private keys, hard-coded passwords and tokens) and on forbidden file names such as .env and *.pem.
- Hardening: actions pinned to commit SHAs, read-only workflow permissions, container runs as a non-root user.

Lead-triage automation | Python standard library, pytest

- Deterministic, offline tool that cleans and de-duplicates inbound quote requests, flags scam and spam patterns, scores priority, and writes a CSV plus a Markdown summary. 12 tests.

Opportunity-discovery tool | Python standard library

- Pulls public job APIs and RSS/Atom feeds (RemoteOK, Remotive, We Work Remotely, Hacker News, Reddit, Jobicy, Arbeitnow), backs off on HTTP 429, and scores posts against a skills profile. 13 tests.

apexfreelance.dev (live business site) | HTML, CSS, JavaScript, Node.js, Vercel, Playwright

- Static site with a Vercel serverless lead-capture function: field validation, allow-listed service values, honeypot spam filter, per-IP rate limit, request-size cap and a mailto fallback. 10 Playwright end-to-end tests; Lighthouse scores of 100 for performance and 100 for SEO (lab run, Nov 2026).

AI-assisted game prototypes (apexfreelance.dev/games) | Godot 4 (GDScript), Phaser 3, HTML5, Playwright

- Two playable 2D web games with title, score and restart screens plus keyboard and touch controls: Shard Runner (Phaser 3) and Apex Climb (Godot 4 web export). Playwright tests cover rendering, input and restart.

Crypto analytics dashboard demo | JavaScript, Node.js, Vercel serverless, Playwright

- Solana analytics app over public DexScreener and RPC data; read-only proxy restricted to allow-listed hosts and RPC methods, with short-lived caching to respect rate limits. 25 Playwright tests, including responsive layout checks.

AI agent orchestration | Multi-agent AI automation

- Runs a multi-agent AI setup to coordinate freelance work, with separate agents for research, building, security audit and review, and human approval required before any external action.