Marc Kendal

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Summary

Senior engineer with nearly a decade shipping production code in industrial real-time systems, now building independently in machine learning and quantitative finance. Python is the language I reach for first, with async at the core and numba and C extensions when performance demands them. **Across production lines worldwide, none of my releases at Fortress required a post-ship fix.**

Experience

Founding Engineer, Automated Trading Platform (independent) · May 2025 – Present

Sole architect and engineer of an algorithmic trading platform running live against my own capital: ~120k lines of Python with asyncio at the core, three live brokers (Interactive Brokers, IG, OANDA) plus a built-in mock exchange. Composition-root architecture, position reconciler, timezone-aware overnight guard, adaptive rate limiter, and startup guardian for operational safety; a separate read-only FastAPI monitor over WebSocket; a multi-provider machine manager (DigitalOcean, Paperspace, Vultr) that handles provisioning, deployments, SSH keys, and broker-credential rotation with automatic rollback. MLOps for a signal-veto layer is the piece I am building now.

Senior Research Engineer, Fortress Technology (Toronto) · Oct 2019 – Aug 2024

In the R&D team, I worked across multiple domains. The head of R&D trusted me with the projects where the design did not yet exist and the path through was not obvious. Designed and built the Python image-processing stack inside the flagship ICON X-ray inspection machine (now running on production lines worldwide), the SvelteKit camera-monitor screen on every shipped ICON, the data-ingestion and labelling tool that feeds the company's ML training, the Knapp pill-dispensing control application (Flask + custom TCP), taken through to handoff with the customer's R&D and technical leadership, and the multilingual HMI pipeline keeping over forty languages in sync. *(product demo)*

Software Engineer, British Airways (London) · 2014 – 2016

Testing pipeline for ba.com: live-data interception in Python and a date-rolling test-data service, both adopted across the testing teams.

Selected Independent Projects

`python-clean-architecture`, an open-source Claude Code plugin applying Python clean-architecture practices to code as it is written (twelve commands, fifty-plus reference files, worked FastAPI example). `quant-finance`, a private plugin operationalising Marcos López de Prado's three books on quantitative machine learning into seventeen reusable skills. `localytics`, a self-hosted alternative to GitHub Insights with function-level cyclomatic complexity, per-file churn, and activity heatmaps. `docugit`, a CLI tool that extracts detailed git changes shaped for ingestion by a language model.

Current Tech

Languages. Python (primary), TypeScript, JavaScript, C. **Backend.** asyncio, FastAPI, numba JIT, ctypes for calling C code from Python. **Data and ML.** SQLAlchemy / SQLite; NumPy, pandas, PyTorch, scikit-learn, OpenCV. **Cloud.** DigitalOcean, Paperspace, Vultr; paramiko and SCP. **Frontend.** Svelte and SvelteKit. **AI coding agents.** Claude Code and Codex CLI; spec-first workflow with `python-clean-architecture`, an open-source Claude Code plugin I maintain.

Education

MSc Data Science (Merit) · City, University of London · 2016 – 2019. **BSc (Hons) Economics, 2:1** · University of Nottingham.