Kai Constantine

Software Engineer graduate - London, UK

https://kaiconstantine.com | https://github.com/Kaialogen | www.linkedin.com/in/kai-constantine

Profile

Python-focused software engineering graduate with strong foundations in data pipelines, APIs, and system reliability.
Experience building production-style Python services, secure authentication flows, and developer tooling.
Seeking fintech or trading roles with a focus on data ingestion, analytics, and backend systems.

Technical Skills

Programming Languages: Python, SQL, Go, TypeScript
Core Concepts: Data pipelines, REST APIs, authentication & token lifecycles, time-series data, schema validation, testing & reproducibility, Linux-based development
Databases: PostgreSQL, MongoDB, SQLite
Development Tools: Docker, Git, Linux, AWS, Pytest
Python Libraries: Numpy, Pandas, asyncio, requests, pydantic, FastAPI

Projects

Apple Music Playlist Exporter - *Python, FastAPI, JWT (ES256), REST APIs, OAuth-style flows*
GitHub: https://github.com/Kaialogen/apple-music-cli
- Production-style Python CLI and API client designed to handle large, paginated datasets with strict authentication constraints.
- Implemented ES256 JWT generation for Apple Music developer authentication and a secure browser-based user authorization flow via MusicKit.
  Designed a local FastAPI service to handle OAuth-style callbacks and persist user tokens for subsequent CLI executions.
  Implemented pagination-aware API clients to reliably retrieve large playlist datasets.
- Focused on security and reliability: isolated secret handling, atomic token storage, deterministic unit tests for JWT generation.
  Delivered a fully packaged, testable tool with CI-ready test coverage and static analysis.

Market Data Ingestion & Normalisation Pipeline - *Python, asyncio, REST/WebSockets, PostgreSQL, Pandas*
- Designed a modular Python pipeline to ingest, validate, and normalise market data from external APIs.
- Implemented schema validation, deduplication, and timestamp alignment for time-series data.
- Built idempotent ingestion jobs with retry/backoff and structured logging for reliability.
- Persisted normalised data into PostgreSQL for downstream analytics and backtesting.
- Focused on correctness and reproducibility: deterministic transforms, unit-tested parsing logic.

Experience

Cyber Attack and Defence Internship - Forvis Mazars LLP   July 2023 - August 2023
- Collaborated on four pentesting projects, including IoT firmware analysis and malware evasion in Go.
- Wrote TDD-style unit tests and integrated checks into Git-based reviews; reduced regressions.
- Applied secure coding and testing principles relevant to high-reliability systems.
- Delivered internal tooling/docs; presented findings to stakeholders, aligning security with engineering priorities.

Cyber Security Programming Tutor - University of Warwick   October 2023 - July 2024
- Delivered 10+ interactive programming tutorials to 50+ undergraduate and postgraduate students.
- Facilitated hands-on learning of algorithms and data structures, improved student engagement and comprehension.

Education

BSc (Hons) Cyber Security - WMG, University of Warwick   September 2021 - July 2024
Achieved Upper Second Class (2:1)

A-Levels - Hurstpierpoint College   September 2019 - July 2021
A*, A*, A, B - Geography, Business Studies, Computer Science, EPQ