

DESMOND BROWN

Software Engineer · Backend & Systems

Accra, Ghana · Open to relocation · +233 596 872 345 · browndesmond30@yahoo.com
github.com/kali-physi-hacker · linkedin.com/in/desmond-brown-a3b140153 · quodra.app

EXPERIENCE

Quodra — Founder & Engineering Lead · part-time 2026 – Present

- Built Quodra (quodra.app), an interactive technical-presentation platform in which equations, charts, circuit diagrams and scientific objects are native, editable objects rather than images; 300 users and 2,432 decks created to date.
- Designed the structured document model, editor architecture and backend services so that people and AI systems manipulate the same objects directly, keeping AI-generated content editable and reusable instead of flattened.
- Shipped PowerPoint import/export and an MCP interface through which AI assistants create and modify presentation objects programmatically; migrated backend workloads to Google Cloud Run.

AlgoGroup / Rosetta IMS — Software Engineer (Procurement & Inventory) via Talent Co-Op · Apr – Sep 2026

- Designed and built procurement, inventory and catalogue services (Python, FastAPI, PostgreSQL, SQLAlchemy, Prefect) that unify Shopify, retailer, supplier and spreadsheet data into one typed model covering 4,000+ SKUs across ~60 suppliers.
- Built typed ingestion and validation pipelines for pricing, packaging units, bulk-buy terms, landed cost and margin, backed by 183 automated tests; validators flag inconsistent costs and margin anomalies before they reach the live catalogue.
- Added provenance and audit trails so every catalogue change is traceable, reviewable and reproducible.

Talent Co-Op — Team Lead Software Developer · Hong Kong, remote Jan 2023 – Apr 2026

- Led a distributed team of ~10 engineers (architecture reviews, testing strategy, releases, sprint execution) while building Python backends and APIs (Django, DRF, FastAPI) hands-on for production web and mobile apps; shipped 30+ releases per year.
- Shipped FoundFast (iOS + Android): startup-idea submission, community voting and competitions; 3,000+ downloads.
- Shipped ManyRoads (iOS + Android): GPS-guided journeys with location-based checkpoints and user-created routes.
- Introduced automated testing and CI/CD (Pytest, GitHub Actions, CircleCI); mentored engineers in design, debugging and TDD.

GRADIA — Full Stack Engineer Oct 2020 – Sep 2022

- Built the laboratory ERP and grading tools used daily by scientists and grading staff for lab records, diamond grading, report generation and workflow automation, on a platform grading 500+ stones per month.
- Cut per-stone imaging time from ~3 min to ~45 s by automating detection and cropping of macro and nano diamond imagery with image-processing pipelines, removing a manual step from grading and report generation.
- Built the customer-facing verification app and the Solidity/Ethereum contracts that mint each grading report as an NFT, giving customers publicly verifiable report provenance; 70+ reports issued on-chain.

ADDITIONAL EXPERIENCE

SocialPosts.ai — Chief Technology Officer (part-time) (Sep 2021 – Feb 2026): Led engineering for an AI-assisted social-media publishing platform: backend, APIs, deployment, ML integrations.

BeNeverEnding Inc. — Backend Developer (Jan – Mar 2021): Developed REST APIs, authentication workflows and backend services for a character-building and visual-storytelling platform.

mPedigree — Junior Developer (2018 – 2019): Built authentication and SMS-verification workflows for secure user onboarding.

SELECTED PROJECTS

Veyra — Systems Observability & Resource Intelligence *Rust · macOS · SQLite · IPC/HTTP APIs*

- macOS-first observability and resource-intelligence platform in Rust: CLI, terminal UI, desktop app and background services share UI-independent core crates exposed over local HTTP/IPC APIs, so one engine also serves automation and MCP clients.
- Persistent, incrementally updated SQLite filesystem index powering duplicate detection, storage analysis, app-footprint discovery and uninstall planning; CPU/memory/swap/disk/process monitoring with explainable recommendations.
- Safe cleanup engine (discover → plan → preview → execute → audit) with protected paths, risk classification, quarantine and undo, so nothing is deleted without a reviewable plan.

Strain — Materials Testing & Analysis *Python · NumPy · pandas · Matplotlib*

- Converts raw Universal Testing Machine exports into stress-strain analyses (Young's modulus, ultimate strength, failure strain) with automatic column detection, unit handling, multi-sample comparison and publication-quality PNG/SVG plots.

TECHNICAL SKILLS

Languages: Python, Rust, TypeScript/JavaScript, C/C++, SQL, Dart, Solidity
Backend & data: FastAPI, Django & DRF, Node.js, REST/GraphQL, PostgreSQL, SQLite, Redis, SQLAlchemy, Pydantic, Prefect
Systems & infra: Linux/macOS internals, filesystems, concurrency, IPC, Docker, Google Cloud Run, AWS, GitHub Actions, CircleCI
Mobile & web: Flutter, React

EDUCATION

Academic City University College, Accra — BSc Electrical & Electronics Engineering 2024 – 2026