Jacob O'Neill

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Profile

Software developer with 3.5 years of professional experience building web applications, industrial platforms, and IoT systems. Comfortable working across the full stack from embedded firmware to production infrastructure. Currently deepening Go and Python expertise through portfolio projects and structured self-study.

Skills

Languages: Python, Go, Bash, TypeScript, C++,
Infrastructure: Docker Containerisation, Linux, GitHub Actions CI/CD, Nginx
Backend & Web: REST APIs, Flask, Express, React, HTMX, Templ
Databases: PostgreSQL, SQLite, MongoDB, Database Migrations
Development: Git, Test Driven Development (TDD), Technical Documentation, Agile Delivery
Homelab: Self-hosted Docker Compose infrastructure with Tailscale networking and media services

Work Experience

Director & Founder, O'Neill Technology Solutions Ltd   Jan 2026 – Present
- Delivered technical consultancy across multiple concurrent client engagements including e-learning platform deployment (TalentLMS), GDPR/DPA compliance, and German localisation project coordination
- Built a custom SCORM content generation framework with a CLI tool, streamlining production of e-learning packages using Preact, Vite, and authenticated CDN asset handling
- Managed subcontractor delivery with daily standups, milestone tracking, and quality assurance
- Handled all business operations: client negotiation, invoicing, IR35 compliance (outside-IR35), and contract management

Software Developer (Contract), CGS Engineering   Jan 2025 – Feb 2026
- Sole developer on an ATEX industrial compliance web application, owning the full lifecycle from requirements gathering with domain experts through to architecture design, implementation, and technical documentation
- Built and deployed a containerised web application (Flask, React, PostgreSQL, Docker) serving multiple client organisations, with role-based access control and white-label theming
- Produced architecture documentation and technical specifications to support handover, future development, and onboarding of additional team members

Lead Software Developer, Bioscope Technologies   Jan 2021 – Mar 2023
- Led full-stack IoT system development: electronic circuit design, ESP32 embedded firmware (C++), Node.js/ Express backend APIs, and React frontend dashboard
- Built real-time environmental monitoring with ESP32 sensor nodes streaming data via WebSockets to a live dashboard, automating manual measurement processes with projected savings of £250k–£500k per year per factory
- Set up and maintained an on-premises Linux server running Docker for production deployment

Service Leader, Welcome Break (Costa Coffee)   Aug 2024 – Dec 2024
- Team leadership role between technical positions; managed shifts, handled financial processes, and improved customer experience

Projects

SecureBin – Encrypted pastebin   github.com/jacoboneill/SecureBin
- End-to-end encrypted paste sharing application built with Go, HTMX, SQLite, and Docker
- Browser-side encryption ensures the server never sees plaintext; pastes are shared via URL fragment
- Session-based authentication, admin-only user registration, and CI/CD with GitHub Actions

Backpack Trading – Stock portfolio optimiser   github.com/jacoboneill/backpack-trading
- Historical NASDAQ data scraper feeding a knapsack-algorithm-based portfolio simulator with data visualisation
- Built in Python with object-oriented design and multiple trading algorithm support

pico-bios-kbd – USB HID keyboard for headless servers   github.com/jacoboneill/pico-bios-kbd
- Four-button USB HID keyboard built on a Raspberry Pi Pico W for headless BIOS navigation
- Embedded development demonstrating microcontroller programming and USB protocol handling

fzf-music – Terminal music player   github.com/jacoboneill/fzf-music
- CLI tool for browsing and playing music playlists with fzf-powered search and album art previews
- Built with Bash scripting, demonstrating Unix pipeline composition and CLI tool design

Education

Harvard (edX) – CS50x: Introduction to Computer Science   Nov 2024
University of Central Lancashire – BSc (Hons) Live Audio Engineering and Music Production (First Class)   June 2023