

Henry Pearson

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I am a driven, versatile, and outgoing individual, with a real drive for software engineering and maintainable code. I am eager to work with a team of like-minded people and apply my proven technical knowledge and problem solving!

WORK EXPERIENCE

NquiringMinds Ltd

July 2024 - Present

Defense & Data Platforms

Rust, WASM, Next.js, Prolog, TypeScript

Engineered continuous assurance and distributed sensor analysis tools for defense partners (BAE, MoD, DSTL). Processed complex data streams including SBOMs, IoT telemetry, and marine tracking (AIS, satellite) for vessel behavior analysis.

Resilient IoT Infrastructure

Rust, JavaScript, Next.js, Python, TypeScript

Architected a secure, CRDT-based P2P communication network for drone fleets. Built the real-time groundstation web app for policy management and implemented best-effort routing to handle extreme network volatility across 5G, 4G, Wi-Fi, and LoRaWAN.

Full-Stack Marketplace

Next.js, PostgreSQL, Supabase, TypeScript

Led the end-to-end development of containerised application marketplace and JSON Schema marketplace. Migrated infrastructure from Vercel/Supabase to self-hosted PostgreSQL to meet strict defense security requirements and production uptime SLAs.

Core Libraries & Verifiable Credentials

Rust, TypeScript, WASM

Authored and solo-maintained W3C verifiable credential libraries (**cargo crates, npm packages**) using strict Test-Driven Development (TDD) to streamline verifiable credential handling across all internal applications.

DevOps Leadership & Optimisation

Next.js, TypeScript

Spearheaded the technical turnaround of a financial analysis SaaS by implementing a new RESTful API, batch jobs, and caching architecture. Significantly reduced tech debt across the team by instituting rigorous CI/CD pipelines and mentoring engineers on best practices.

EDUCATION

University of Southampton

2021 - 2024

Software Engineering (BEng - First Class Honours)

Modules: Cloud Application Development, Software Engineering Group Project, Web Architecture and Hypertext Technologies, Programming Language Concepts, Programming I/II/III, Advanced Databases

Harlow College - A-levels

2018 - 2020

Mathematics (A), Further Mathematics (A), Computer Science (A)*

PROJECTS

CragConnect

MongoDB, Express, React, Node

Rock climbing-focused social media web application.

This is my third year individual project for my degree, and utilises the **MERN stack** to provide users with a place to talk about climbing, organise climbing trips, organise sharing climbing equipment, and track fitness routines

ProgressPets

Azure (SWA, Database and Serverless Functions), React

Kanban Board project management with customisable pets.

This was a group coursework for the Cloud Application Development module, where I led a team of six people in developing an application that utilised cloud computing in both the front-end and the back-end.

Runway Redeclaration App

Java, JavaFX

Obstacle Avoidance during Airport Operations.

Worked in a team to build a native desktop application which can be used by Air Traffic Control at airports to calculate and redeclare usable runway dimensions if an obstacle has obstructed normal operations.

SKILLS & INTERESTS

Languages & Frameworks: Rust, JavaScript, TypeScript, Python, C#, Java, SQL (PostgreSQL), HTML, CSS, Prolog, Next.js, React, Astro.

Technologies: Docker, Docker Compose, Git, GitHub, CI/CD (GitHub actions, self hosted runners, cloud and on-premises deployments), AWS, Supabase, Linux, PM2, Kubernetes

More about me: I am outgoing, communicative, and passionate about software development. I find a lot of satisfaction in learning new technologies and solutions which I then apply at work, in solo-projects and projects with friends. My other hobbies include Brazilian Jiu-Jitsu, rock climbing, and music production!

REFERENCES

References are available on request.