

Jack Forbes

Swansea University • +44 7714 686229 • jack@jackforbes.co.uk • github.com/jackforbesdev • linkedin.com/in/jack-forbes-87a4731a9

BSc Computer Science student focused on backend engineering. Built Java/Spring Boot APIs with SQL, Docker Compose, GitHub Actions CI and JUnit tests, including idempotent payment flows and a lightweight API gateway with rate limiting. Interested in reliability, security and production-ready service design.

Projects

Mini Payments Core (Java/Spring Boot, REST, SQL, Docker Compose, GitHub Actions) • github.com/jackforbesdev/payments-core

- Built a Spring Boot REST API for payment flows (authorize/capture/refund) with a transaction state machine to enforce valid transactions.
- Implemented idempotency keys and optimistic locking to prevent duplicate processing under retries and concurrent requests.
- Wrote unit and integration tests with Junit, MockMVC and TestContainers, ran them in GitHub Actions.
- Containerised API and database with Docker Compose; documented local setup and example requests.

Minimal Secure API Gateway (Java/Spring Boot, REST, Docker, GitHub Actions) • github.com/jackforbesdev/secure-api-gateway

- Built a lightweight gateway in Spring Boot enforcing API key auth and per-client rate limiting to protect downstream services.
- Added request IDs and structured logs to support traceability across services and easier debugging.
- Tested filters with JUnit; validated config via environment variables and Docker.

Jewel Chase Game – Tile-Based Puzzle Game (Java, JavaFX, Git) • github.com/jackforbesdev/JewelChase

- Co-developed a JavaFX tile-based puzzle game with modular separation between rendering, game logic and level data.
- Designed the text-based level format and implemented the level-loading pipeline to construct full level objects.
- Implemented core systems including NPC behaviour, scoring/timers, door unlocking and save/load tied to user profiles.
- Contributed to integration debugging and edge-case fixes across levels and menus.

Technical Skills

Languages: Java, SQL, Python, Haskell, Prolog, C

Backend: Spring Boot, Spring MVC, RESTful APIs, API key auth

Tools: Maven, Docker, Docker Compose, Git, GitHub Actions, JUnit

Education

BSc Computer Science • Swansea University • 2024-2027

Modules: CS270 Algorithms, CS250 Database Systems, CS210 Concurrency

A-Level • UTC Reading • 2021-2023

Computer Science (B), Maths (C), English Language & Literature (D)

GCSE • 10 GCSEs (9-7) including Maths (8), English Language (9), Computer Science (9)

Work Experience

Bartender • Bambu Beach Bar • 01/2025 – 01/2026

- Delivered fast, accurate service during peak periods; handled high volumes while maintaining quality and safety standards.
- Processed cash/card payments and supported opening/closing routines and end-of-night resets.

Supervisor Barista • Black Sheep Coffee • 09/2023 – 09/2024

- Led and trained a team of 6; improved consistency and speed through clearer processes and coaching.
- Contributed to measurable improvements in weekly revenue and customer satisfaction over a 6-month period.

Certificates & Achievements

- **Introduction to Programming using Python • Microsoft Technology Associate**
- **Level 2 Award in Effective Team Member Skills • ILM**
- **World Scout Jamboree 2019 Delegate • 95th Reading Scouts • 07/2019**
- **Black Belt in Shotokan Karate • Tiska Karate • 2011 – 2020**
- **Royal Navy Junior Leader's Field Gun Competition Finalist • UTC Reading • 07/2022**

Voluntary Work

- **Cub Scout Leader • 95th Reading Scouts • 01/2019 – Present**

