

JACK JACOBSEN

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Education

BSc Computer Science

University of Leeds

September 2022 – May 2026

Predicted 1:1

A Levels in Computer Science, Physics, Mathematics

Attlee A Level Academy

September 2020 – May 2022

A, A, B*

Work Experience

PricewaterhouseCoopers

Technology Degree Apprentice

September 2022 – May 2026

Leeds, United Kingdom

- Led front-end development for a microservices project, designing and building responsive user interfaces using React, Vite, and Bootstrap to handle complex data workflows.
- Integrated frontend components with scalable backend services built in Go, Python, Redis, and Elasticsearch, ensuring seamless data synchronisation and real-time updates.
- Contributed to deployment and orchestration of containerised services on Google Cloud Platform using Kubernetes, managing scaling and resource allocation.
- Developed and maintained CI/CD pipelines using Azure DevOps, automating testing and deployment processes to improve release velocity and code quality.
- Collaborated across teams using Git-based version control and agile methodologies, gaining hands-on experience with cloud-native architectures and enterprise-scale development practices.

Projects

TAA Implementation | *C++, OpenGL, Academic Research*

September 2025 – May 2026

- Implemented Temporal Anti-Aliasing (TAA) algorithm in C++ using OpenGL to improve rendering quality across cross-platform applications.
- Conducted literature review and integrated techniques from academic research papers to optimise temporal sampling and reprojection methods.
- Developed cross-platform rendering pipeline using OpenGL to ensure compatibility across Windows, macOS, and Linux environments.
- Evaluated algorithm performance through rigorous testing and benchmarking, comparing results against established TAA methodologies in computer graphics.

Bus Better | *TypeScript, Next.js, Git*

Hackathon Project 2025

- Category winning project at University of Leeds Hackathon utilising live bus data from across the UK to create an interactive game.
- Designed to raise awareness of public transport service quality through engaging gamification mechanics.
- Deployed on Netlify with custom domain and Cloudflare CDN for optimized global performance.

JACK Compiler | *C, Git*

April 2024

- Implemented a lexical analyser, parser, symbol table and VM file generator for the JACK programming language.
- Developed a multi-stage compilation pipeline in C to transform source code into executable VM instructions.
- Utilised Git for version control and project management throughout the development process.

Technical Skills

Languages: C, C++, Rust, Python, Java, Go, JavaScript (ES6+), TypeScript, SQL, Assembly (Z80)

Graphics & Game Dev: OpenGL, SDL2, ImGui, Godot, CMake, GLSL, GDScript

Developer Tools: Git, Azure DevOps, VS Code, JetBrains IDEs, Qt Creator, Jupyter

Cloud & DevOps: Kubernetes, GCP, Netlify, Cloudflare

Extracurricular

University of Leeds Computing Society

Committee Member

May 2023 – May 2024

University of Leeds

- Planned and helped coordinate large-scale events including Casino Night and CompSoc Ball, raising thousands of pounds for charity.
- Coordinated logistics and event planning for 100+ attendees across multiple events throughout the academic year.