# **Jayden Holdsworth,** MEng

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## EDUCATION

**University of Hull** **2022-2026**

Master of Engineering in Computer Science (*Pending*) - First Class (*Predicted*)

- Average Grade: 76.9% (First Class) across second and third year.
- Third year dissertation of "SkateNext: Developing a Gamified Skateboard Trick Progression App using React Native Expo", receiving a First Class Honours.

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## TECHNICAL SKILLS

- **Languages:** TypeScript, JavaScript, C++, Rust, C#, Python, Java, CSS3, HTML5.
- **Frameworks & Libraries:** React, React Native, Node.js, Express.js, Next.js, TailwindCSS, .NET, Astro, Tauri, Spring Boot.
- **Data & Storage:** PostgreSQL, MySQL, SQLite.
- **Tools:** Git, GitHub Actions, Azure DevOps, Docker, Expo, Vite, CI/CD pipelines (Github Actions, Cloudflare Pages), Figma.

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## WORK EXPERIENCE

### Groundwork Yorkshire Mapping Tool

**Full-Stack Developer** **2025-2026**

React, Spring Boot, and PostgreSQL web app to track environment data for the Hornsea Mere freshwater lake through an interactive map.

- Designed and implemented a complex mapping interface that supports point, polyline, and polygon spatial data visualisation with Leaflet.js.
- Engineered a mobile-responsive public submission portal allowing members of the public to log observations, integrated with an administrative dashboard for data verification and approval.
- Constructed the backend infrastructure and PostgreSQL database schema to efficiently handle and query large-scale geospatial datasets.
- Created a robust AutoCAD DXF parser to intake legacy client data, implementing a coordinate alignment system to accurately transform geospatial data to the interactive map.
- Designed a dynamic layer management system allowing admins to organise complex hierarchies of layer groups, nodes and custom node types, with functionality to export datasets in CSV, JSON, and GeoJSON formats.
- Orchestrated CI/CD pipelines via Azure DevOps for automated building, testing, and deployment to a Virtual Machine environment.
- Collaborated effectively within a three-person team utilising Agile and PRINCE2 methodologies.
- Ongoing project in association with my Master's of Engineering in Computer Science for 'Commercial Development Practice'.

## PROJECTS

### Joker Forge **2025-2026**

jokerforge.jaydchw.com

React.js web app which allows users to create Balatro mods using a Scratch-inspired block-based coding interface.

- Developed a sophisticated bespoke code generation algorithm in Typescript that transforms the users code blocks into complete SMODS compatible Lua files.
- Designed and implemented the interface using Tailwind that abstracts complex code logic into a simple to understand format, with functionality for branching IF statements, intricate conditions, and random number generation.
- Managed a team of open source developer contributions through GitHub, resolving 200+ issues, solving 100+ merge conflicts, and ensuring the project ran smoothly.
- Built a CI/CD deployment pipeline to Cloudflare Pages, with the platform receiving an average of ~1,000,000 requests per month.

### RoguelikeIndex **2026**

roguelikeindex.jaydchw.com

Next.js web app to track, index, and analyse roguelike games, allowing users to browse ratings, create lists, and receive recommendations.

- Designed a comprehensive metric system evaluating games on specific genre heuristics, including narrative presence, synergy depth, and RNG reliance.
- Implemented secure user authentication utilising JWT token and Bcrypt hashing to ensure data privacy and session management.
- Engineered a crowd-sourced data validation workflow where user contributions are vetted through a community voting system before permanent database commitment.
- Developed a dedicated email microservice to handle password recovery for user accounts.
- Optimised SQLite database read performance by ~300% through strategic indexing and query optimisation.
- Built an automated web scraping engine to aggregate real-time pricing and review data from Steam, IGN, and Metacritic.

### SkateNext **2024**

play.google.com/store/apps/details?id=com.jaydchw.SkateNext

React Native mobile application designed to gamify the process of learning and progressing in Skateboarding.

- Successfully developed a recommendation algorithm in Typescript that dynamically suggested new tricks based on user heuristics.
- Scripted a calorie estimation algorithm in Typescript which calculated energy expenditure based on the user's skill level and completed tricks.
- Deployed onto the Google Play Store, available to download on Android devices.
- Created for my Bachelor's year dissertation, receiving a First.