Ishan Fernandes

Computer Science Student · Game Developer, seeking a 12-month industrial placement (June/July 2027 - 2028)

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PROFILE

Second-year Computer Science (Year in Industry) student at Royal Holloway, specialising in Software Engineering. I have designed and shipped five original games and web projects from scratch in JavaScript, Python and Java, including a frame-by-frame ghost replay system and a probabilistic AI opponent. Now moving into engine-based development with Godot. Looking for a 12-month software engineering or game development placement starting summer 2027.

EDUCATION

BSc Computer Science with a Year in Industry, Royal Holloway, University of London · 2025 - 2029 (expected)

- Specialising in Software Engineering from Year 2. Current modules: Software Engineering, Symbolic AI, Mathematical Methods for Computer Science.
- Core coverage: algorithms, object-oriented programming, artificial intelligence, network security, mathematics for CS.
- All major coursework published as public GitHub repositories with working demos.

PROJECTS

One Minute Left: Browser Platformer · JavaScript, HTML5 Canvas · 2026 · GitHub

- Built the complete game loop in vanilla JavaScript and the Canvas API with no engine, holding 60 FPS (frames under 16 ms).
- Designed a ghost replay system that records player state every frame and plays it back, a technique used in commercial racing and platform games.
- Built an adaptive difficulty system that tunes obstacle speed and spawn rate from the player's live performance.
- Added a hidden speedrun shortcut as a deliberate level-design choice.

MNMX Memory Battle: AI Card Game · JavaScript, Web Audio API · 2026 · GitHub

- Built an AI opponent that remembers revealed cards and chooses moves by probability rather than at random.
- Designed five difficulty tiers that tune the AI's memory retention and aggression.
- Refactored a single-file prototype into a modular multi-file architecture using MVC-style separation.

Student Records System (CS2800 coursework) · Java, Maven, JUnit 5 · 2026

- Modelling modules, registrations and grades in Java, with custom exceptions in a dedicated package and unit tests written in JUnit.

Course Management System · Python, Matplotlib · 2025 · GitHub

- Designed a multi-entity OOP system (students, courses, grades, attendance, rankings), fully modelled in UML before coding.
- Implemented CSV persistence and Matplotlib charts, taking data from file input to visual reports.
- Applied single-responsibility and separation-of-concerns principles, documented in UML diagrams.

Portfolio Website · HTML, CSS, JavaScript · 2025 - present · ishanfernandes.uk

- Built from scratch with no frameworks: custom animations, a modal system, form validation and a fully responsive layout.
- Includes a playable Snake game on the Canvas API with speed scaling and persistent high scores.

TECHNICAL SKILLS

- **Languages:** JavaScript (advanced), Python, Java, SQL, HTML5/CSS3
- **Game development:** custom game loops, collision detection, replay systems, adaptive difficulty, game AI, Canvas API; learning Godot (GDScript)
- **Software engineering:** OOP, design patterns, MVC, UML, unit testing (JUnit), Maven, Git and GitHub
- **Web:** DOM manipulation, REST APIs, responsive design, CSS animations
- **Security:** network security, threat modelling, encryption fundamentals

ADDITIONAL INFORMATION

- **Availability:** 12-month industrial placement from June/July 2027, as the Year in Industry of my degree.
- **Interests:** game AI and adaptive systems, performance optimisation, cybersecurity.