

# Joshua Walker

[Portfolio](#) [LinkedIn](#)

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MEng Computing student in my **penultimate year** at Imperial College London looking for a **6-month placement** from April - September. Interested in games and software development, which I fostered through university projects and solo development work that helped me build foundational teamworking and time-management skills.

## Education

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### Imperial College London (2022 - current)

MEng Computing course, currently in 3rd year. Achieved **first class honours** in 2nd year

### Shrewsbury Sixth-Form College (2020 - 2022)

A Levels: Computer Science - A\*, Physics - A\*, Maths - A\*, Further Maths - A

## Work Experience and Volunteering

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### IC Hack (2023, 2024)

Europe's largest student-run hackathon, hosted on South Kensington Campus

- **Volunteered** throughout both days to help secure the premises and cater for the hundreds of participants and industry representatives. **Collaborated** with fellow students to **organise** and deliver a smooth experience for all involved, helping to handle unexpected logistical problems such as late food deliveries. I learnt how to **handle pressure** and de-escalate situations while serving food to customers, managing queues and disgruntled participants.
- Participated to discover more about different sectors of the industry through **technical workshops**, while experiencing the challenge of the hackathon and the strict **time-management skills** required. I spoke to sponsors and industry representatives to better understand the practical application of concepts studied in lectures, and developed integral **networking skills**.

### In-Comm (formerly Marches Centre of Manufacturing Technology) (2019)

Completed a week's work experience among a group of automotive apprentices, **integrating seamlessly** into an established group. Picked up practical **problem-solving skills** deconstructing retired engine blocks, collaborating with the apprentices to overcome issues within a short timeframe whilst learning techniques used in different engineering disciplines.

## Projects

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### Lettuce Eat (Group Project) - Flutter, Firebase, Dart (2024)

- Studied **Human-Centered Design techniques** with the Royal College of Art in order to build a student recipe-based social media Android app. Determined the needs of the target market through interviews and **data-gathering techniques** to ensure our product was commercially viable.
- For the final deadline, my teammates and I presented the application to lecturers and fellow students, **ably demonstrating** the value of our project. When technical difficulties hampered the presentation, I improvised, holding the attention of the audience while my teammates fixed the errors.

### Sorts TUI - Rust (2024)

- Developed an in-terminal utility for visualising sorting algorithms, built as an exercise in understanding algorithmic complexity.
- The stark contrast between developing this command-line interface and Lettuce Eat, an Android app, taught me the degree at which a commercial product is informed by its target market and their requirements.

### Portfolio Website - *JavaScript, React, CSS*

(2024)

- Designed and developed my own portfolio website to showcase skills and experience gained through university and solo projects.
- Learnt React and JavaScript fundamentals and how to deploy a website using GitHub pages, while exploring **website design** and its impact on user experience.

### WACC Compiler (Group Project) - *Rust*

(2024)

- Built an optimising compiler from scratch in Rust, using the clap, Chumsky and Ariadne crates to provide a command-line interface and clear error reporting. Designed using internal intermediate representation to allow for code generation into both Arm32 and Intel x86-64 assembly code.
- Worked effectively in **time-constrained project** - contributed and discussed design ideas as a group and led the group to amicable solutions when dissenting opinions were offered.

### Pintos (Group Project) - *C*

(2023)

- Extended a simple **operating system framework** into a complex and developed system with features such as a priority-based thread scheduler, synchronisation primitives, system calls and virtual memory. Explored foundational concepts of OS architectures and delved into the pre-existing codebase to **understand and research** their practical implementations.
- Managed workload effectively between group members and wrote detailed design reports to evidence our decisions.

### Weather Wallpaper - *Rust*

(2022 - 2024)

- Built a **command-line wallpaper engine** that changes the user's desktop wallpaper to reflect local weather.
- Learnt how to access and deserialise online API data; used the Dialoguer crate to provide a clean interface for selecting weather depicted in user-provided wallpapers.

### Origame - *Unity, C#*

(2022 - 2024)

- Developed a 2D puzzle platformer game for A-Level coursework - attained an **A/A\*** grade and expanded further after submission.
- Learnt crucial **problem-solving and debugging** skills when building the central mechanic: providing the illusion of folding paper platforms using vector mathematics and sprite redrawing. Tackled level and puzzle design while learning to restrict scope creep.
- Completed a **comprehensive design document** explaining game's inspirations and design methodology.

### Painball - *Unity, C#*

(2021)

- Pinball game developed in **7 days** for the 2021 Ludwig Jam. The theme of the jam was Foddian; participants were tasked with creating a game which emulates the frustration of popular Bennett Foddy games.
- I learnt the importance of **user testing and feedback**: by watching people play, I could calibrate the difficulty to ensure the game remained fun whilst adhering to the design brief.

## Skills and Interests

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**Languages and Technologies:** C, C++, C#, Rust, Java, Haskell, React, JS, HTML, CSS, Flutter, Git, Unity, Latex

### Archery

I am a former member of Audco Archers, an archery club based at Archery GB's training facilities. Training with Olympic and Paralympic archers was hugely inspiring; among talented archers of all ages, I learnt the value of **friendly competition**, something that pushes me to produce exceptional work alongside my fellow coursemates.

### Guitar

I am a **self-taught** guitarist; I learnt acoustic guitar to stay productive during the Covid-19 lockdown and have kept playing ever since. Learning an entirely new skill was a daunting task, but through gradual improvement, I built confidence in my ability to commit to rigorous self-study.