Charlie Hall

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Education

University Of Leicester
BSc Computer Science (1st Class)

Leicester, University Rd, Leicester LE1 7RH
Sept 2022 - June 2025

Kettering Science Academy

Kettering, Deeble Rd NN15 7AA
Sept 2016- June 2022

- A Levels: A Computer Science, B Physics, C History

Work Experience

Milisan School
Tutor

Online
Jan 2024 - Present

- Tutored young learners (ages 7–14) in Lua programming and core computer science concepts.
- Helped students build Roblox games by simplifying complex ideas into accessible, hands-on lessons.
- Adapted teaching style to different learning needs and skill levels.

Projects

Roblox Code Emulator
Personal Project

- Implemented a Lua interpreter and simulated Roblox data model in Python to simulate Roblox execution.
- Implemented AST building using a recursive visitor pattern and recursive execution on the AST tree.
- Built in safe execution protection to avoid runaway executions.

Internet Voting System
Final Year Project

- Designed and implemented a custom blockchain-based over-the-internet voting system, focusing on transparency and integrity in Python.
- Built from TCP level up, implementing a P2P network with encryption and signatures using Python's cryptography library.

Spleef Roblox Game
Personal Project

- Reimagined the classic Minecraft "Spleef" minigame in Roblox with multiplayer support.
- Implemented securely with server-side sanity checks to prevent exploits.
- Engineered a custom physics system for snowball projectiles and integrated multithreading to boost performance.

Additional Info

- **Languages:** Python, C++, Haskell, Java, Lua,
- **Tools:** Git, MySQL, Roblox Studio
- **Other:** Worked part-time in a fast-food restaurant throughout studies, balancing deadlines with responsibility.