Wednesday 26 Feb 2025
Cardinal Heenan

Programme of Activities

10.00 – 10.15	Arrival in our Lab & Welcome (including security induction & account registration)
10.15 – 11.00	**Workshop 1: Binary system and radix sorting (Jenny)**
11.00 – 11.30	**Giant Sorting Network** (outdoor activity)
11.30 – 12.00	Lunch Break
12.00 – 12.45	**Workshop 2: Introduction to Machine Learning (Matt)**
12.45 – 13.45	**Hands-on Workshop: Lego EV3 drives the warehouse**
13.45 – **14.00**	Closing Talk

All workshops take place in Lab 3 of the George Holt building.

Information about the Activities

Binary system and radix sorting algorithm

Discover the magic behind how computers think and organize data! This interactive lesson dives into the world of binary numbers, the building blocks of all computing. You'll learn how to count in binary, perform binary arithmetic, and explore the clever Radix Sort algorithm. Hands-on activities make it fun and engaging, as you build your own sorting model to see an advanced computer science concept in action!

Giant Sorting Network

In this outdoor lesson, pupils will play the role of the "compute nodes" in a parallel sorting algorithm. They will experience first-hand how parallelism speeds up computation, but also makes it more challenging to reason about programs.

Introduction to Machine Learning

Introduction to Machine Learning (ML) is a hands-on and engaging session introducing Year 9 students to the exciting world of Artificial Intelligence (AI). The lesson includes real-life examples, a case study in the construction industry, and a practical exercise in image recognition. Students will explore how Machine Learning works, its applications, and its challenges. This lesson will delve into AI's potential and pitfalls, and students will learn how this technology can be applied in their lives.

Lego EV3 Drives the Warehouse

Robots managing large warehouses are one of the many examples where automation helps humans to solve a task faster and cheaper. For this to be effective, robots need to be at least partially autonomous, i.e., able to sense and react to the physical world without (constant) human intervention. In this hands-on lesson, pupils program Lego EV3 robots to follow a line, avoid obstacles, and ultimately navigate a warehouse safely and autonomously.