



Academy of St Nicholas
Wednesday 3 May 2023

Programme of Activities

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| 10.00 – 10.15 | Arrival in our Lab & Welcome (including security induction & account registration) |
| 10.15 – 11.00 | Workshop 1: Python Snake |
| 11.00 – 11.30 | Giant Sorting Network (outdoor activity) |
| 11.30 – 12.00 | Lunch Break |
| 12.00 – 12.45 | Workshop 2: Social Engineering |
| 12.45 – 13.45 | Hands-on Workshop: 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

Python Snake

In this lesson, students generate their own self-contained, playable “Retro Snake” game in Python. No prior programming knowledge required!

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.

Intro to Artificial Intelligence and Data Science

The lesson gives some concrete examples of how artificial intelligence can look like and its diverse applications in the world.

Lego EV3 Drives the Warehouse

Robots managing large warehouses are one of the many example 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.