UNIVERSITY OF LIVERPOOL

Department of Computer Science
Computer Science Taster Days

The Mosslands School
Wednesday 22 March 2023

Programme of Activities

10.00 – 10.15	Arrival in our Lab & Welcome (including security induction & account registration)
10.15 – 11.00	**Workshop 1: Code-a-meme with Vidcode and Javascript**
11.00 – 11.30	**Giant Sorting Network** (outdoor activity)
11.30 – 12.00	Lunch Break
12.00 – 12.45	**Workshop 2: Phishing in Cybersecurity**
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

Code-a-meme with Vidcode and Javascript

JavaScript is *the* language of the web: its runs on all interactive websites, webapps, and increasingly also on backends. We all rely on it unknowlingly in our daily digital life. In this lesson, students seemlessly learn some basic JavaScript programming using *Vidcode* to program their own interactive meme.

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.

Phishing in Cybersecurity

Pupils will learn about phishing through a role-play activity in which they are put into the shoes of a Social Engineer themselves. The philosophy behind this approach is derived from the Art of Way by Sun Tzu, where he says “If you know the enemy and you know yourself, you need not fear the result of a hundred battles.” By thinking of what needs to go into malicious emails from the perspective of the fraudster, pupils will learn what to look out for in their own emails. A key part of this section will be to study some real-world examples and break down what makes them suspicious.

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.