

## Introduction

Inside the Black Box.

In this workshop, students (13-16) go beyond the hype to understand how AI actually works. Through hands-on simulations with Machine Learning and Neural Networks, they learn to differentiate between AI types and design their own conceptual solutions for real-world problems.

## Key Goals

- **Train:** Build models with Teachable Machine.
- **Identify:** AI types (Vision, LLMs).
- **Solve:** Design AI for sustainability.
- **Reflect:** On ethics and bias.

## Resources

- **Sim:** Teachable Machine.
- **Game:** Quick, Draw!
- **Activity:** Matching Cards.
- **Tech:** Laptops/Tablets.



## How AI Learns

Machine Learning & Solutions



**Co-funded by  
the European Union**

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Target Group: 13-16 y.o.  
**SmAile Project**

## Learning Outcomes

### Knowledge:

- Learning paradigms (Supervised vs. Reinforcement).
- Neural Networks basics.

### Skills:

- Training AI models.
- Problem solving.

## Values

- Innovation.
- Ethical responsibility.
- Future readiness.

### 1. The Black Box

**Teachable Machine:** Students train a computer to recognize images or sounds. **Quick, Draw!:** Interacting with a neural network to see how it "thinks."

### 2. Real World AI

**Matching Game:** Connecting technologies (like Computer Vision) to real problems (like detecting forest fires).

### 3. Design Challenge

**Solve a Problem:** Teams identify a sustainability issue and propose an AI-powered solution.

**Discussion:** "Is AI a tool for good? How can we ensure it is used safely?"