

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.

Resources

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



Key Goals

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



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How AI Learns

Machine Learning & Solutions

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?"