Introduction

Teaching Machines to See.

In this workshop, students (13-16) explore the intersection of AI and Science. By building their own datasets and training models to classify scientific objects (like rocks or plants), they gain a practical understanding of Machine Learning and the ethical challenges of automation.

Key Goals

- **Train:** AI models with custom data.
- **Analyze:** Scientific classification.
- **Debate:** AI vs. Human judgment.
- **Collaborate:** In research teams.

Resources

- **Tool:** Teachable Machine.
- **Platform:** eTwinning.
- **Data:** Student-collected images.
- **Tech:** Laptops/Tablets.

Co-funded by the European Union

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Training AI

AI & Machine Learning

Target Group: 13-16 y.o.
SmAIle Project

Learning Outcomes

Knowledge:

- Machine Learning processes.
- Sources of bias in data.

Skills:

- Dataset creation.
- Scientific inquiry.

Values

- Digital responsibility.
- Critical thinking.
- Scientific integrity.

1. Data Collection

Fieldwork: Students collect images of specific scientific categories (e.g., igneous vs. sedimentary rocks), ensuring the data is diverse and high-quality.

2. Training & Testing

Teachable Machine: Students feed their data into the tool to train a model. They then test it with new, unseen samples to verify its accuracy.

3. Ethics

Debate: "Can AI replace lab scientists?" Students discuss the reliability of AI in critical tasks and the importance of human oversight.

Reflection: Padlet discussion on trust in technology.