

# Final Report: AI in Medical Image Analysis for High Schools

## Project Team

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## Introduction

This project aimed to enhance understanding of the mathematics and computer science behind artificial intelligence (AI) among high school teachers and students, with a particular focus on medical image analysis. We developed accessible lesson material, programming notebooks, and teacher-training workshops.

## Activities

- Workshop for high school teachers at the University of Twente, March 2025, 35 participants, 50% math, 50% computer science teachers.
- Workshop for teachers at TU Eindhoven, October 2025, 15 participants, 30% math, 70 % computer science teachers
- Workshop for high school students, TU Eindhoven, June 2025
- Development of lesson material, slides, and assignments with a student assistant:

[machine learning medical data workshop/Lesmateriaal.pdf at main · clarastegehuis/machine learning medical data workshop · GitHub](#)

And accompanying slides:

[machine learning medical data workshop/Les Convolutie-1.pptx at main · clarastegehuis/machine learning medical data workshop · GitHub](#)

[machine learning medical data workshop/Les Convolutie-2.pptx at main · clarastegehuis/machine learning medical data workshop · GitHub](#)

[machine learning medical data workshop/Les matrices.pptx at main · clarastegehuis/machine learning medical data workshop · GitHub](#)

- Creation of programming notebooks for AI and image analysis:

[workshop convolutie geen ai.ipynb - Colab](#)

[workshop convolutie.ipynb - Colab](#)

## Results and Impact

We developed a comprehensive AI teaching package usable in math, computer science, NLT, and O&O classes. Teachers gained knowledge about machine learning and medical image analysis through our workshops and received ready-to-use materials. The project will reach a larger audience through upcoming 2026 presentations, at MathFest 2026 and the Nationale Wiskundedagen 2026. Next to this, 4TU Schools is preparing a LessonUp version of our lesson material, ensuring easier dissemination and making the material easier to use for teachers.