

## Assignment Focus on Vision IMS

IMS is manufacturer of precision mechanical machines used for the assembly of semi-finished products. Markets that are focused on are: the automotive industry, Smart devices (i.e. lens systems in cell-phones) and pharmaceuticals. IMS wants to delve into the subject of *machine learning*. By elaborating the case described below, IMS wants to gain knowledge in methods and possibilities surrounding machine learning and apply this knowledge in the future to similar issues.



## Task description

Detecting errors on transparent subjects.

Since IMS is doing much handling with lenses in glass or plastic it is important to reach the right quality. To reach the right quality the components the customer deliver for processing must meet certain requirements. Failures like scratches on lenses must be under a certain limit. Scratches or other debris that may be caused during the process could be everywhere on the lens and the form of the failure is always different. To detect failures, we want to add machine learning to do the qualification good or bad.

IMS would like to design and realize a setup that is able to differentiate bad products from good products using Machine Learning for vision. Deliverables in the project are: Design documentation (requirements and design description, test reports, installation and user manual) and a working setup.

This project can be executed at Saxion mechatronics research group or at IMS in Almelo.

## Practical Information

**Student Profile:** Mechatronics, Computer Science, Electrical Engineering

**Duration:** February 2021 – July 2021

**Compensation:** Graduation at Mechatronics group Euro 230 per month; Graduation at IMS Almelo to be determined.

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