# Utrecht University <> Labelfuse

## About Utrecht University

Utrecht University is a university in Utrecht, the Netherlands. Established 26 March 1636, it is one of the oldest universities in the Netherlands. It has been placed in the top 100 universities in the world by four major ranking tables. The university is rated as the best university in the Netherlands and ranked as the 13th best university in Europe and the 52nd best university of the world. It counts a number of distinguished scholars among its alumni and faculty, including 12 Nobel Prize laureates and 13 Spinoza Prize laureates.

## Problem Statement

The team of professors from palaeoecology and the palaeo-physiology department at Utrecht University is analyzing pre-historic data from pollen sediments . The goal is to map an entire climate history from 1.5Million years to today with the intent to predict climate change into the future.

## Use-Case

***Counting different cell types in Pollen sediments that can be used for creating the climate models.***

## How the used to solve it?

Using specialized microscopes, they employ 2 PhDs to analyze 400 images per project to ***manually count*** different cell types used for creating climate models. This manual work had lots of constraints associated:

1. It takes a long time to count and document the counting. They can't handle more than a few hundred image because its a cost in time and human capital.
2. The technology being used is quite older.
3. The accuracy obtained in manual counting ranged between 75%-80%.

## With LabelFuse

1. Using our proprietary technology - we reduced a 3 day process to 7secs.
2. Using AI, we built models to count, detect specific features from a few Labelled images. LabelFuse had an accuracy of >95% in detecting and counting different cell types in secs.

## Next steps:

We had a good response from the professors at Utrecht University and they are satisfied with the results obtained in the optimal time frame. We are now putting in efforts to introduce Labelfuse into different research departments of the Utrecht University.

## Reference to the publication:

https://www.nature.com/articles/s41586-019-1529-0