



Context



- It is estimated that there are **4 million tons of fiber cement** in Catalonia.
- We will never be able to solve the problem if we do not know it in depth.
- Preliminary draft law for the eradication of asbestos of asbestos and National Plan for its removal.
- Need for a reliable and updated census of the presence of asbestos.



# What we do?



Detecting and identifying fiber cement roofs through a model using neural networks and aerial images



# How we do it? Using...



- Computer Vision (CV)
  Aerial image detection and segmentation
- Data Science Extraction of information from data
- Feature Engineering
  A priori attribute determination
- Machine Learning
  Example-based learning
- Neural Networks

Architectures that accumulate several layers of neurons





#### Effectiveness

We are able to detect more than 90% of fiber cement roofs in the territory thanks to the reliability and continuous learning of our model.

### • Efficiency

Access to updated and reliable information, automatically linked to land registry data.

#### Optimization

Asbestos eradication is a cross-cutting and complex objective. Innovation in the use of neural networks must allow the optimization of resources in order to successfully meet this challenge.

## • Flexibility

Models based on neural networks can be applied at different levels, continuously improved and developed to address other problems.

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