

## **Goal**

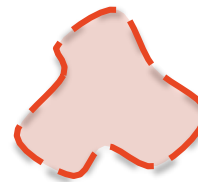
- Get an overview of concept and technology
- Illustrations of the different parameters

# ANATOMY OF A UNIQUE APPROACH

Core



Focus



Tools





# FEATURE DETECTION & IDENTIFICATION



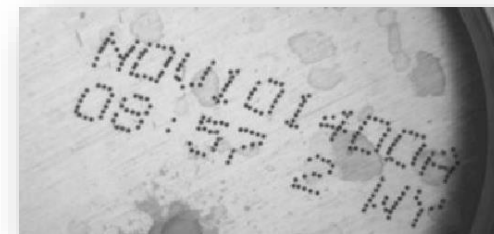
**1** Collect images of objects

**3** Train model with ViDi blue



**2** Identify features on images

**4** Validate detection on untrained images

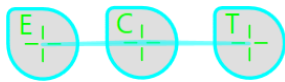


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08:57 2 WY

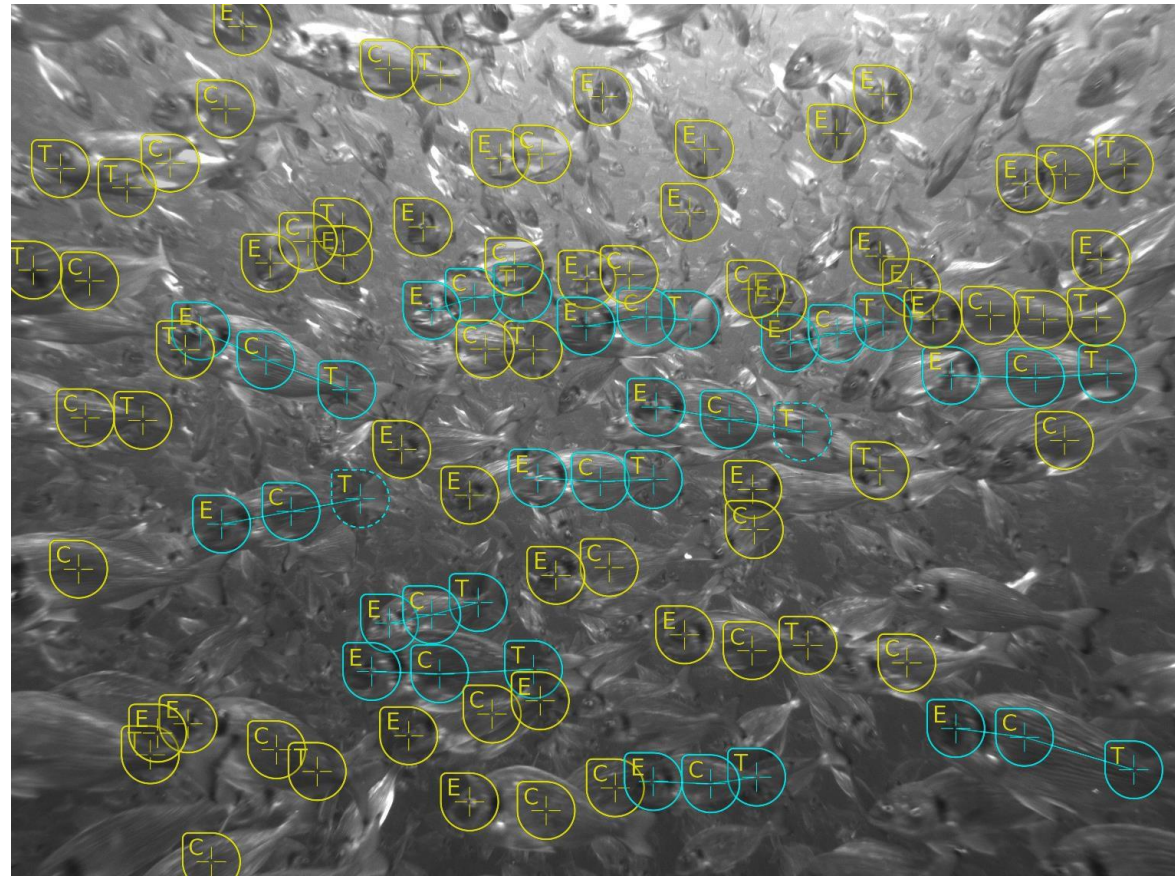
Blue Tool find **features**  
(eye, corpse, tail)



Matches a model  
(fish)



Model can be made  
of partial matches



Model can be used to filter found features



# AESTHETIC VISUAL INSPECTION & SEGMENTATION

ViDi Red can work in two modes :

- **Anomaly Detector : unsupervised**  
The red tool will find all **anomalies** on the image  
The images required for training are images of **good samples**
- **Defect detector : supervised**  
The red tool will find all **trained defects** on the image  
The images required for training are images of **bad samples**

If you can tell if this is a defect without prior knowledge : **unsupervised**.  
Otherwise **supervised**.



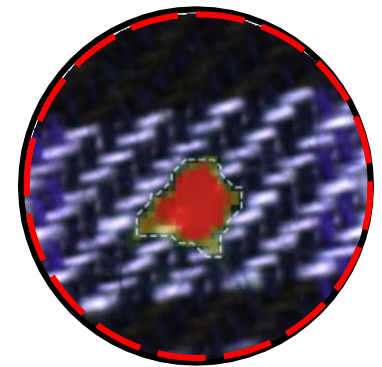


**1** Collect images of good samples



**2** Train images with ViDi red unsupervised

**3** Validate model on images with defects







**1** Collect images of good & bad samples

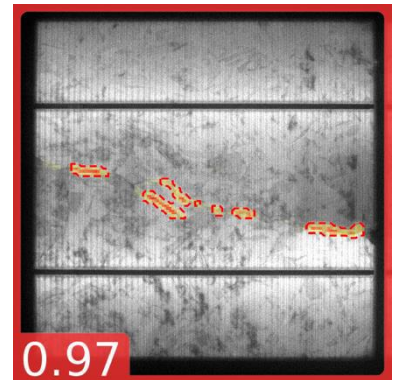
**2** Mark defects on bad images



**3** Train model with ViDi red supervised

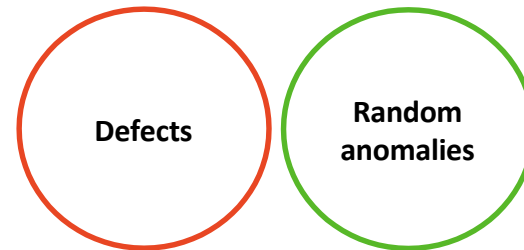


**4** Validate model on untrained images



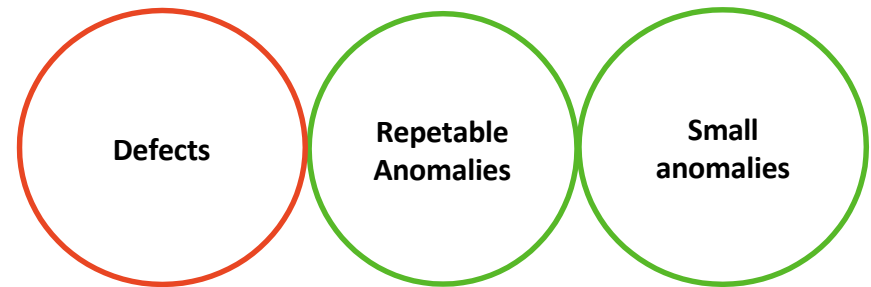
## Supervised

- In the case the red tool has to find **defects** and not **random anomalies**
- E.g find only scratches on highly noisy structure with no defined pattern



## Unsupervised

- In the case the Red tool has to find **defects**. The anomalies are repetitive so the system can **learn** them.
- **Big feature size** can filter small anomalies
- E.g. find scratches on a rotating screw, find defects on textile, prints



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