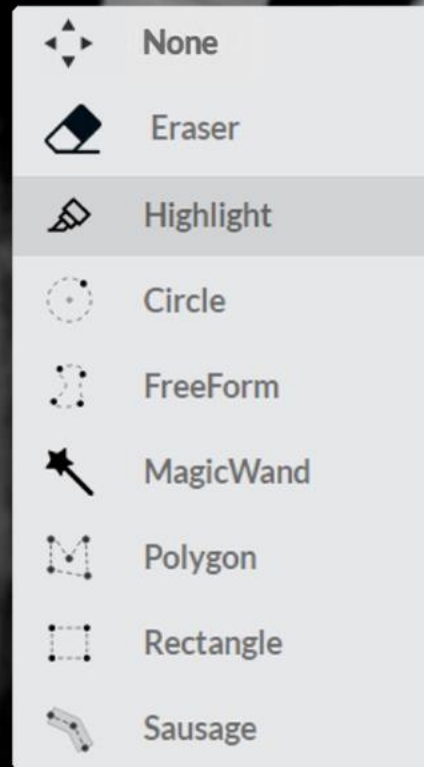


Only those who think differently, ...

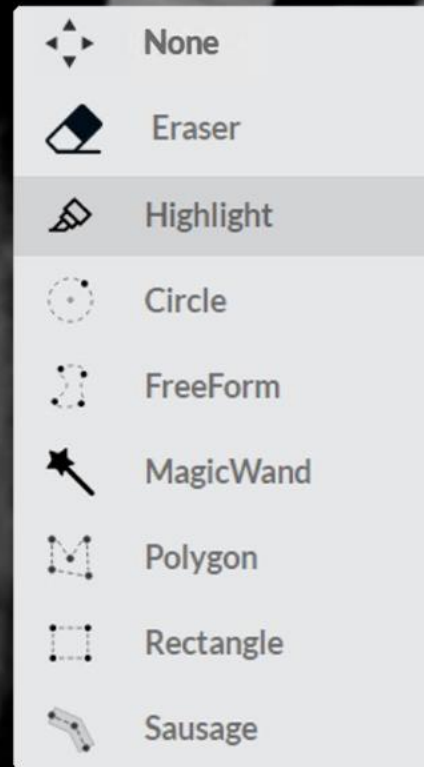


Only those who think differently, can create something new.



Only those who think differently, can create something new.

Just show it:





WE ARE

DENKWEIT.

THOSE WHO THINK DIFFERENTLY, CAN CREATE SOMETHING NEW.

HIGHLY COMPLEX IMAGE EVALUATION

simply implemented



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
“Matching”?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
“Matching”?

Image evaluation with 21
images created

None

Eraser

Highlight

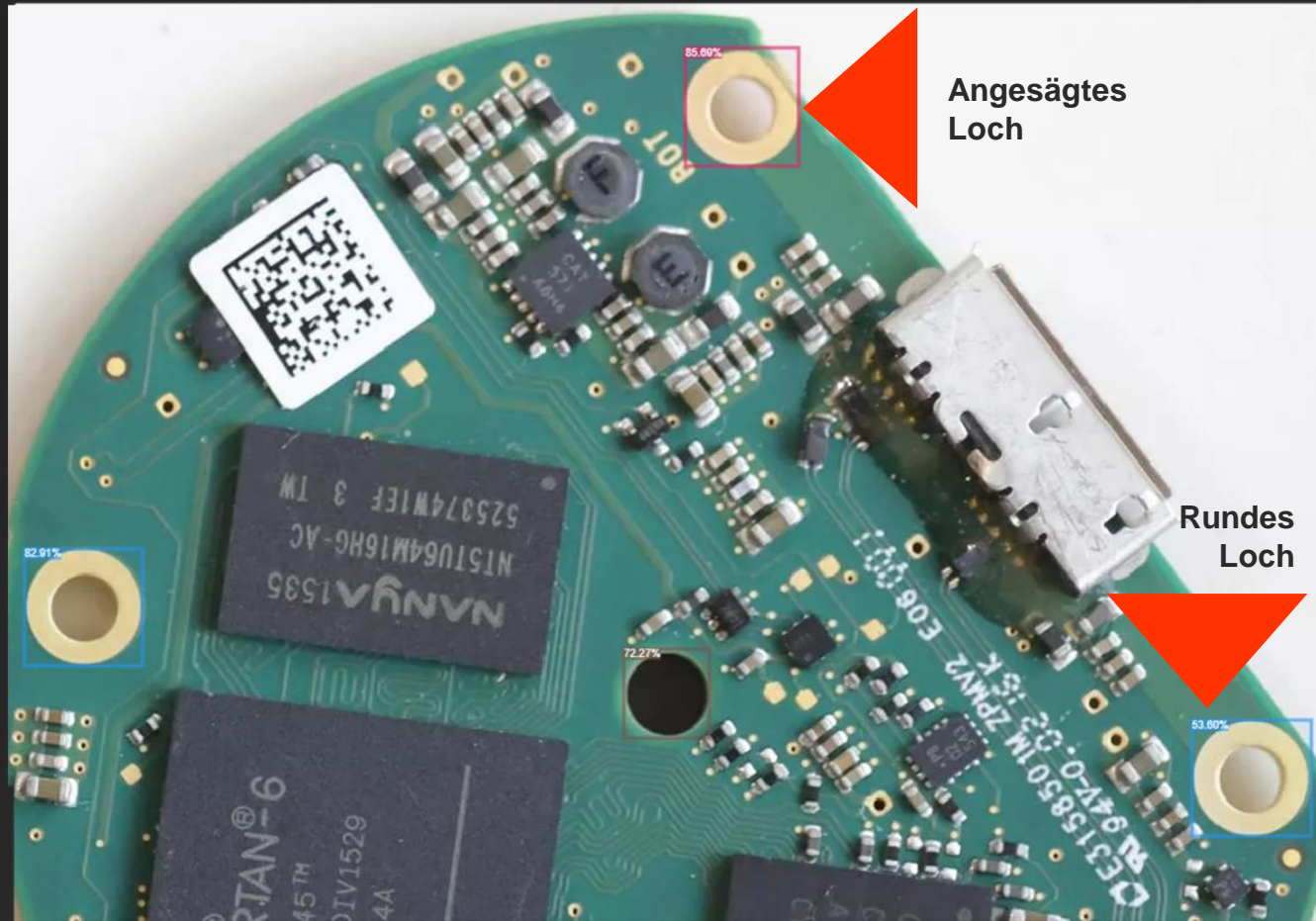
BoundingBox

Activate positive / negative annotations

- Mitte (3)
- Rechts_Stecker (1)
- Sonstige (8)

? ↶ ↷ ↻ ⌂

Predicted Not Annotated



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

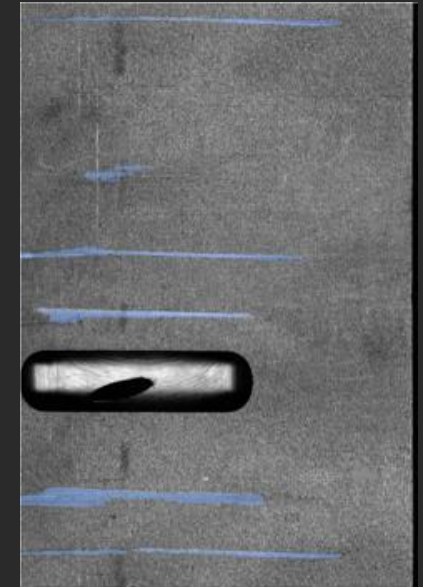
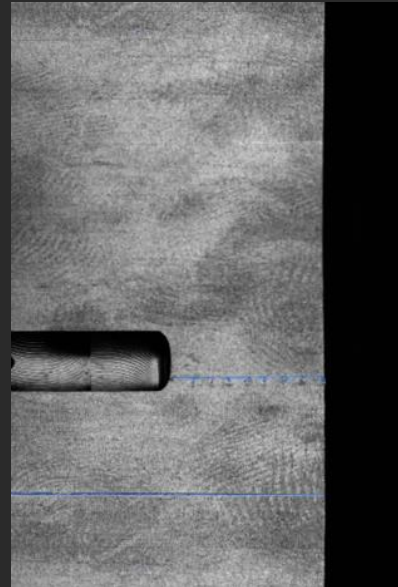
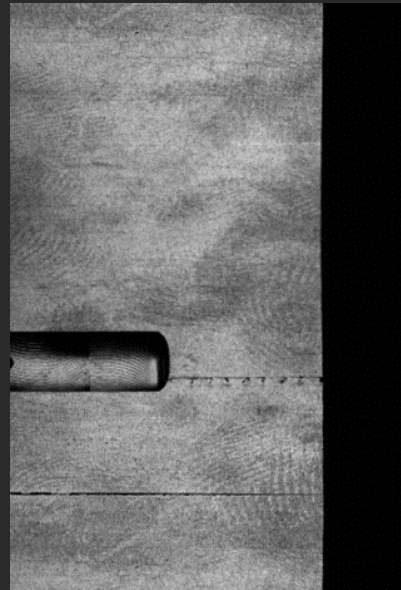
Can DENKnet
find cracks?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

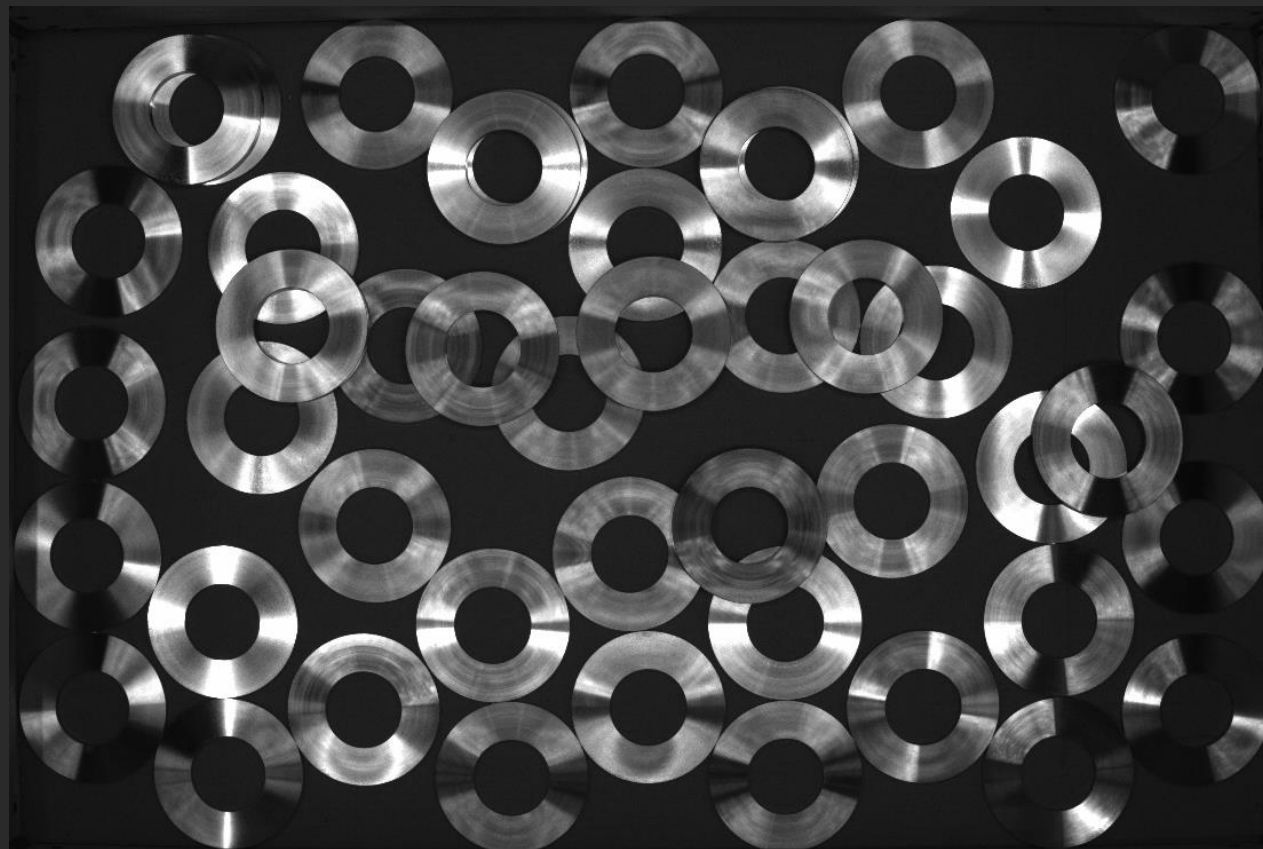
Can DENKnet
find cracks?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

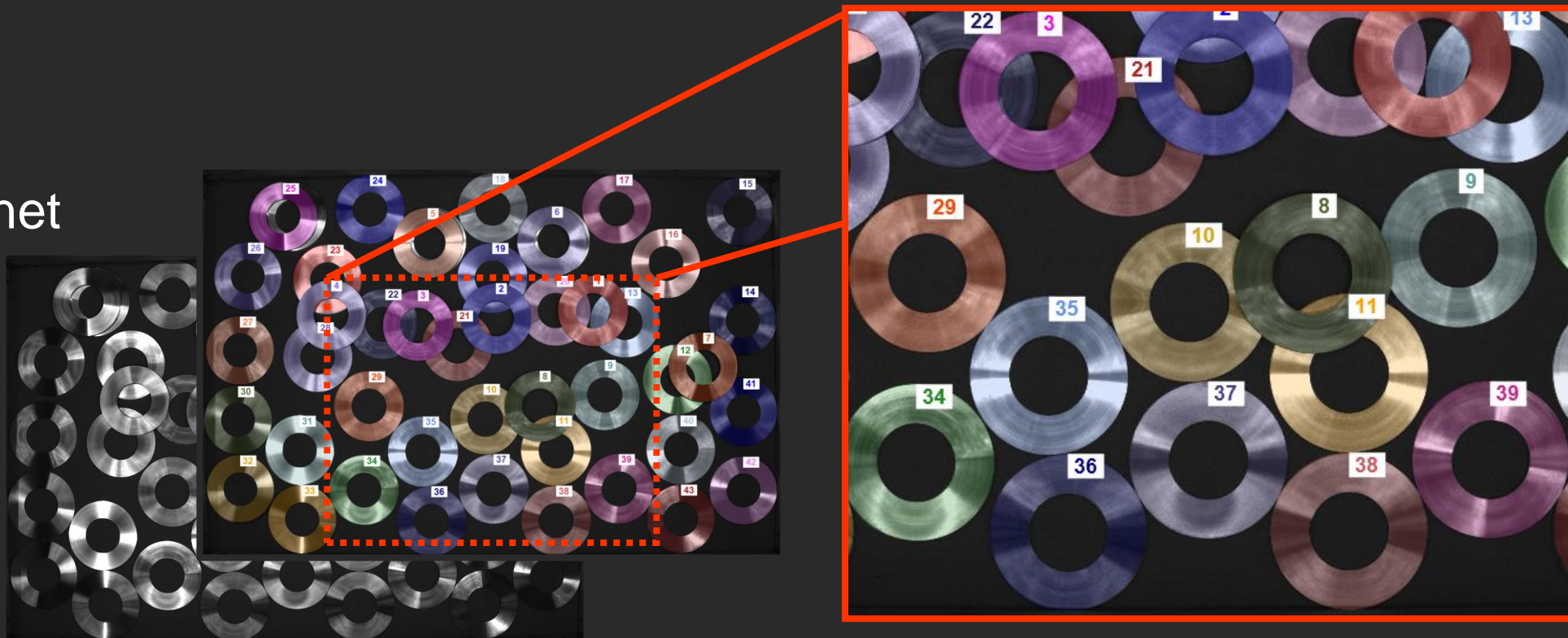
Can DENKnet
count?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
count?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

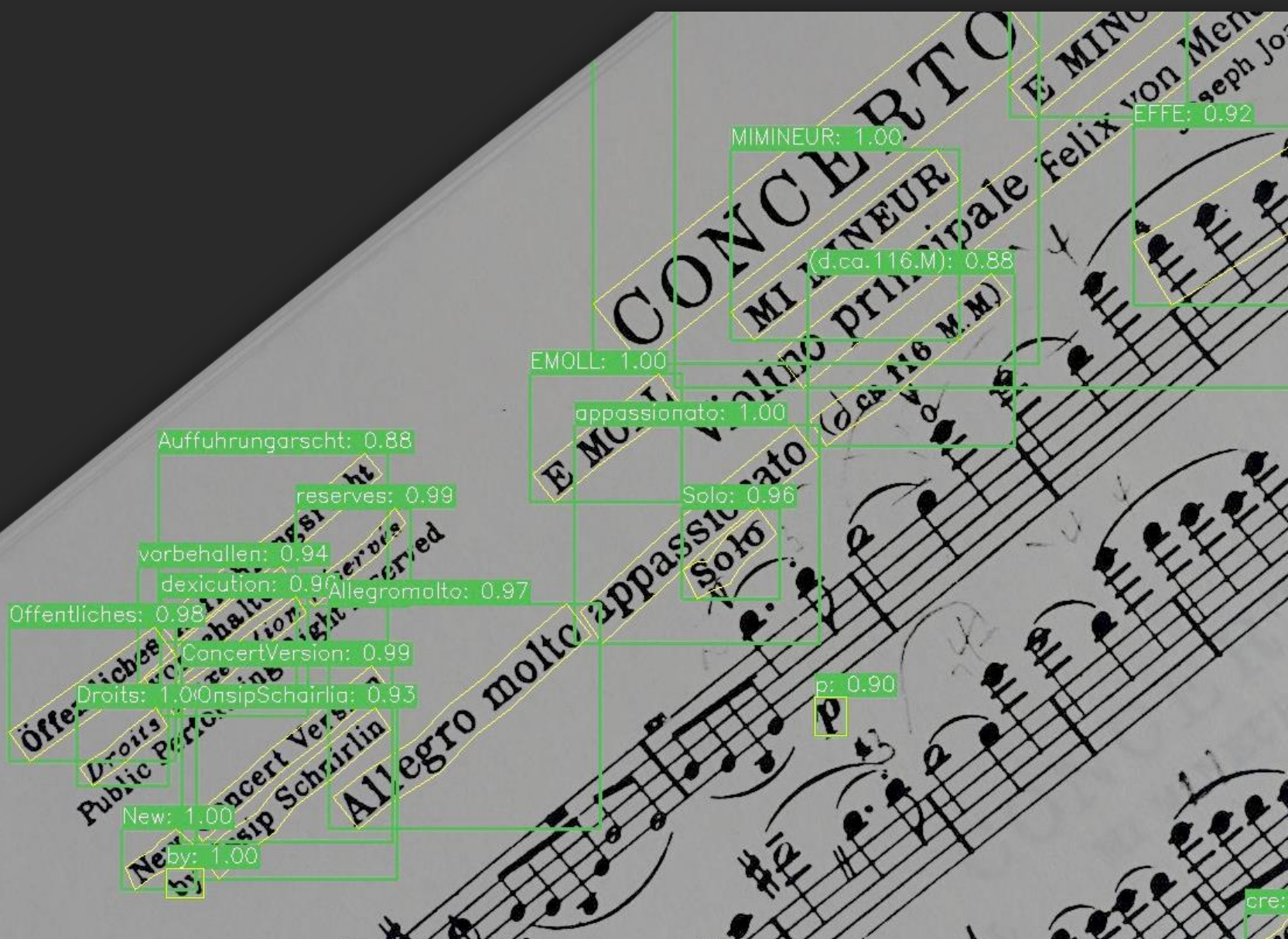
Can DENKnet
OCR?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
OCR?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
good-bad?

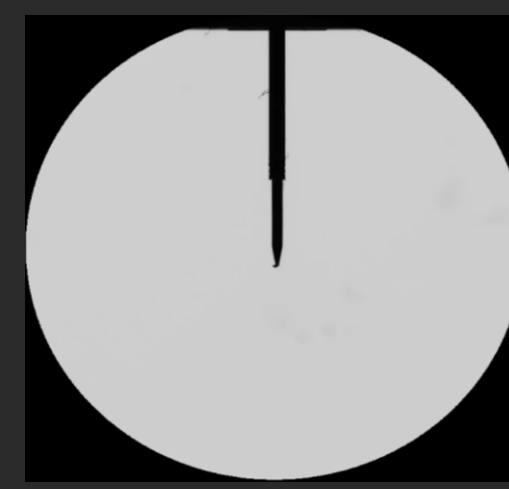
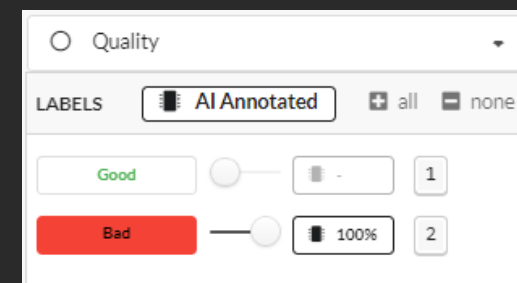
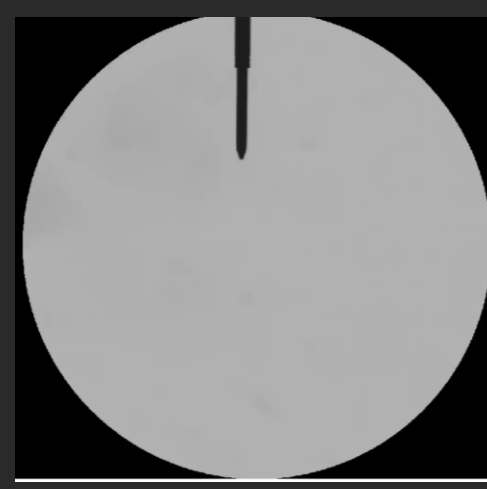
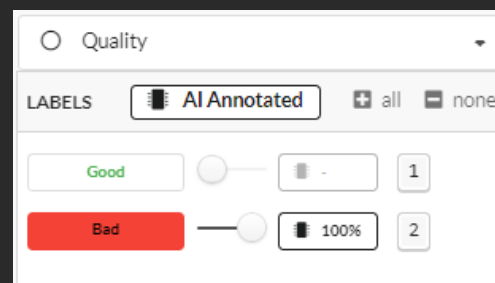
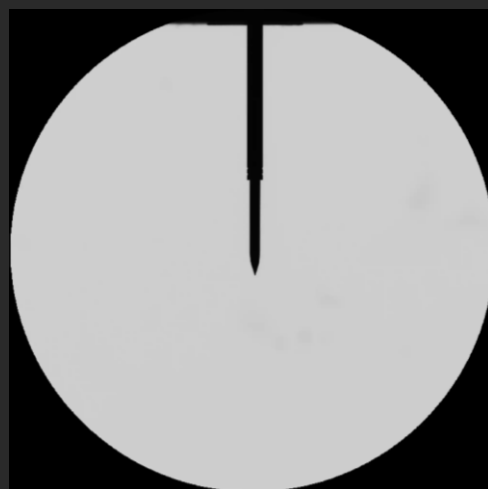
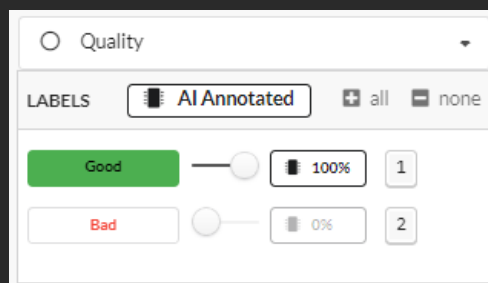


HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
good-bad?

Image evaluation with 21
images created



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

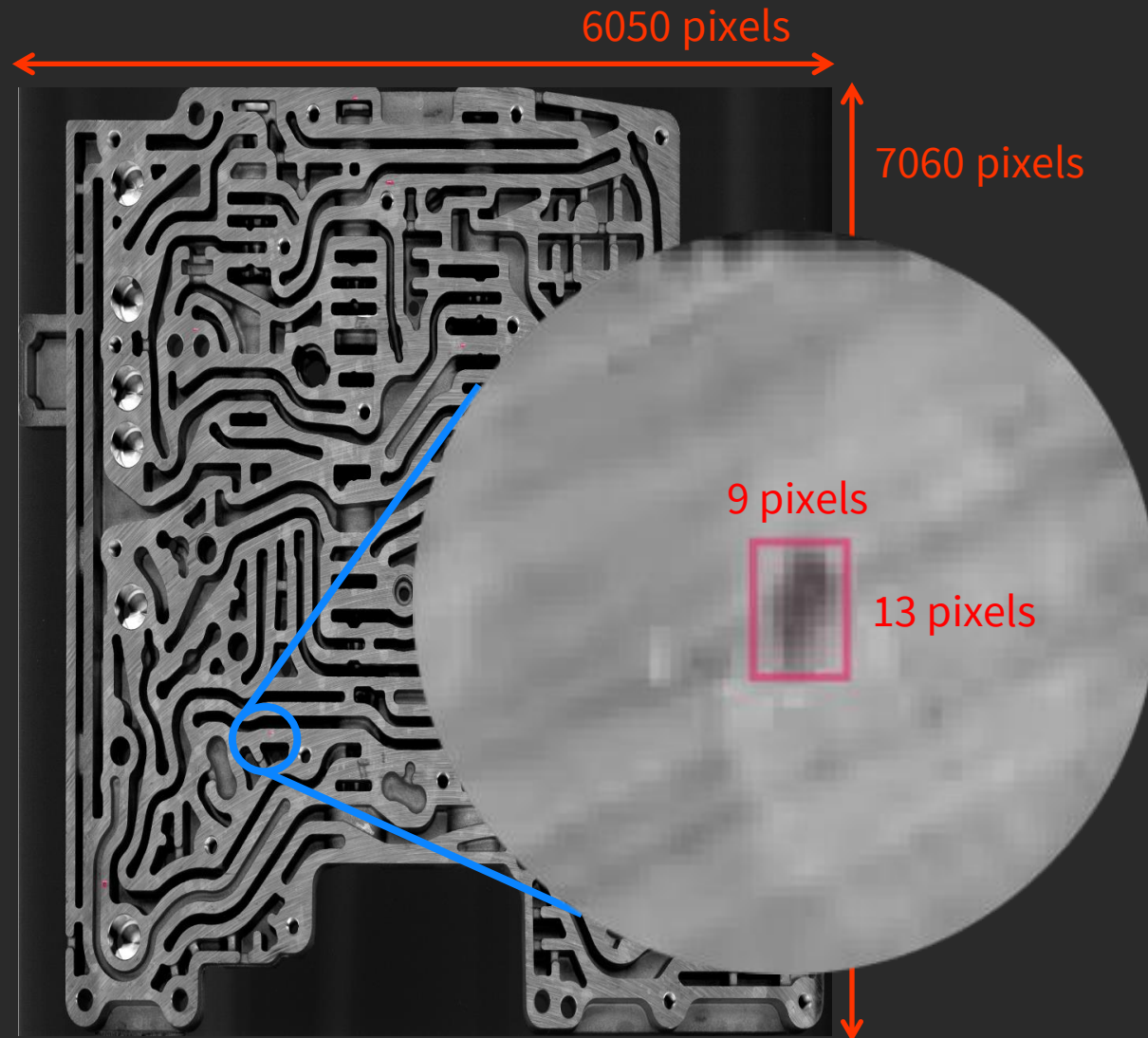
Can DENKnet
tiny?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
tiny?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

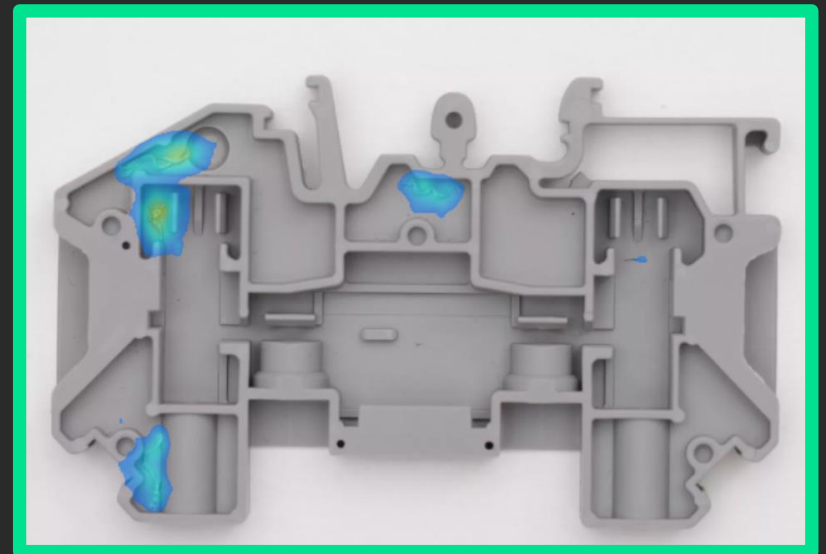
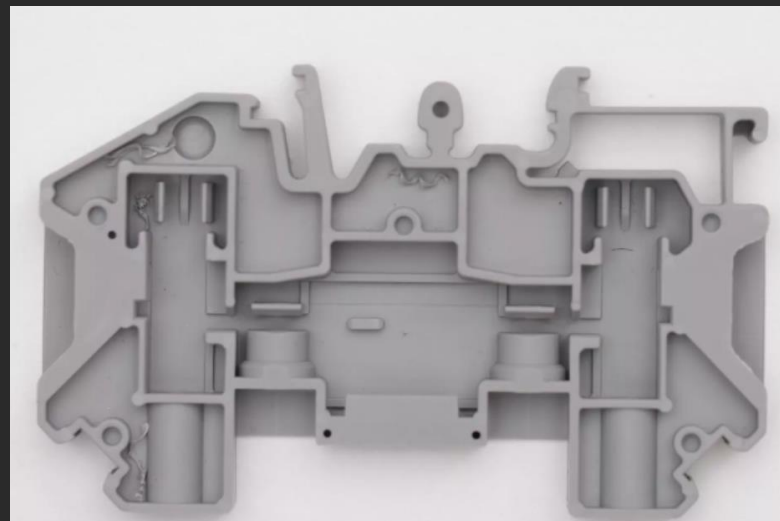
Can DENKnet
deviations?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
deviations?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
many different
classes?



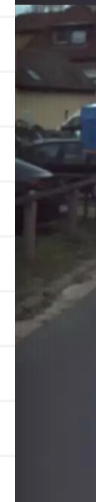
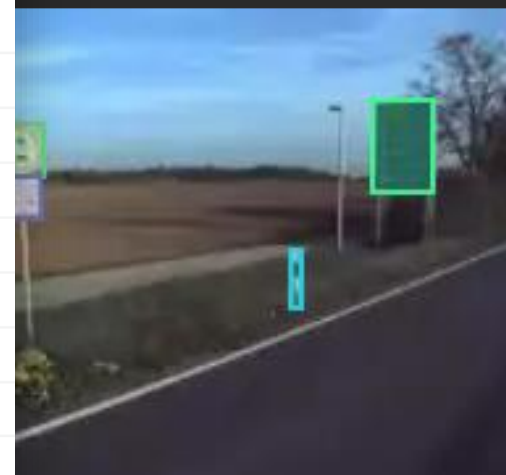
HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
many different
classes?



1000-11	26
1000-20	51
1000-21	43
1000-31	17
1000-32	16
1000-33	2
1001-30	53
1001-31	138
1002-xx	45
1004-30	176
1004-31	20
1006-31	23
1007-34	48
1010-51	35
1010-58	27
1012-50	19
1020-30	29
1022-10	61
1026-35	27
1026-36	23
1031-5x	14
1040-32	46
1042-3x	77
1053-30	18
1053-31	15
1053-33	26



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
blazingly fast?

Laptop
interne Grafikkarte

5 MP

0,20 Sek.

Pixelgenaue Auswertung

PC
dezidierte Grafikkarte

71 MP

0,45 Sek.

Pixelgenaue Auswertung



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

How do you do it?



Choose your solution

Give Input (if needed)

Set up output/recipes

Test and fine-tune

The screenshot displays the DFN.AI web interface with a navigation bar at the top containing 'Home', 'Files', 'Networks', 'Training', 'Decisions', 'Tuning Center', and 'Settings'. The main content area is titled 'Choose Network Type' and features a grid of AI solution cards:

- Image Classification:** A network that determines which objects are present on an image. Includes thumbnails for 'penguin', 'flamingo', and 'duck'.
- Image Segmentation:** A network that predicts to which class a pixel belongs. Overlapping instances cannot be separated. Includes a thumbnail of penguins with a 'rock' label.
- Object Detection:** A network that finds objects on images and predicts their bounding boxes. Overlapping instances can be separated. Includes a thumbnail of penguins with bounding boxes labeled 'penguin 90', 'penguin 87', and 'penguin 89'.
- Instance Segmentation:** A network that finds objects on images with pixel accuracy and bounding box prediction. Overlapping. Includes a thumbnail of penguins with colored bounding boxes.
- Anomaly Detection:** A network that detects any deviations from a norm on an image. Includes thumbnails for 'penguin OK' and 'penguin NOT OK'.
- Keypoint Detection:** A network that detect keypoints which can be used to measure different properties of objects. Includes a thumbnail of a 'PENGUINS' sign with keypoints.
- Text Detection:** A network that finds characters or words on an image. Includes a thumbnail of a 'PENGUINS' sign.
- Super Resolution:** Upscale a low resolution image to higher resolutions with the help of our AI. Includes thumbnails for 'low resolution' and 'high resolution' of a flamingo.

At the bottom, there is a Windows taskbar with a search bar containing 'Zur Suche Text hier eingeben', several application icons, and system tray icons showing the time as 19:53 on 18.09.2022. A DFN.AI logo is visible in the bottom right corner.

Choose your solution

Give Input (if needed)

Set up output/recipes

Test and fine-tune

The screenshot displays the DEK Annotation-Tool interface. The main window shows a collection of gears and LEGO bricks on a light-colored surface. Several gears are highlighted with purple bounding boxes, indicating predicted objects. The confidence scores for these predictions are: 94.73% (blue gear), 96.75% (grey gear), 94.40% (black gear), 96.24% (black gear), 87.13% (large grey gear), and 97.81% (grey gear). The interface includes a left sidebar with a list of annotations for 'Zahnräder' (gears) and a right sidebar with 'Training' and 'Autoprediction' status indicators. A large green 'PLAY' button is overlaid on the bottom right of the image.

Annotation-Tool [d64cb792-d019-4c04-8951-d07773df6ed8.png]

4/29

Zahnräder

None
Eraser
Highlight
BoundingBox

Activate positive / negative annotations

Convert all predictions to annotations

Zahnräder (12) 1

Annotation	Confidence
Zahnrad	97%
Zahnrad	96%
Zahnrad	94%
Zahnrad	98%
Zahnrad	96%
Zahnrad	95%

Training (idle)
Start Stop

Autoprediction (idle)
Start Stop

new predictions available

Show Network Details

PLAY

Choose your solution

Give Input (if needed)

Set up output/recipes

Test and fine-tune

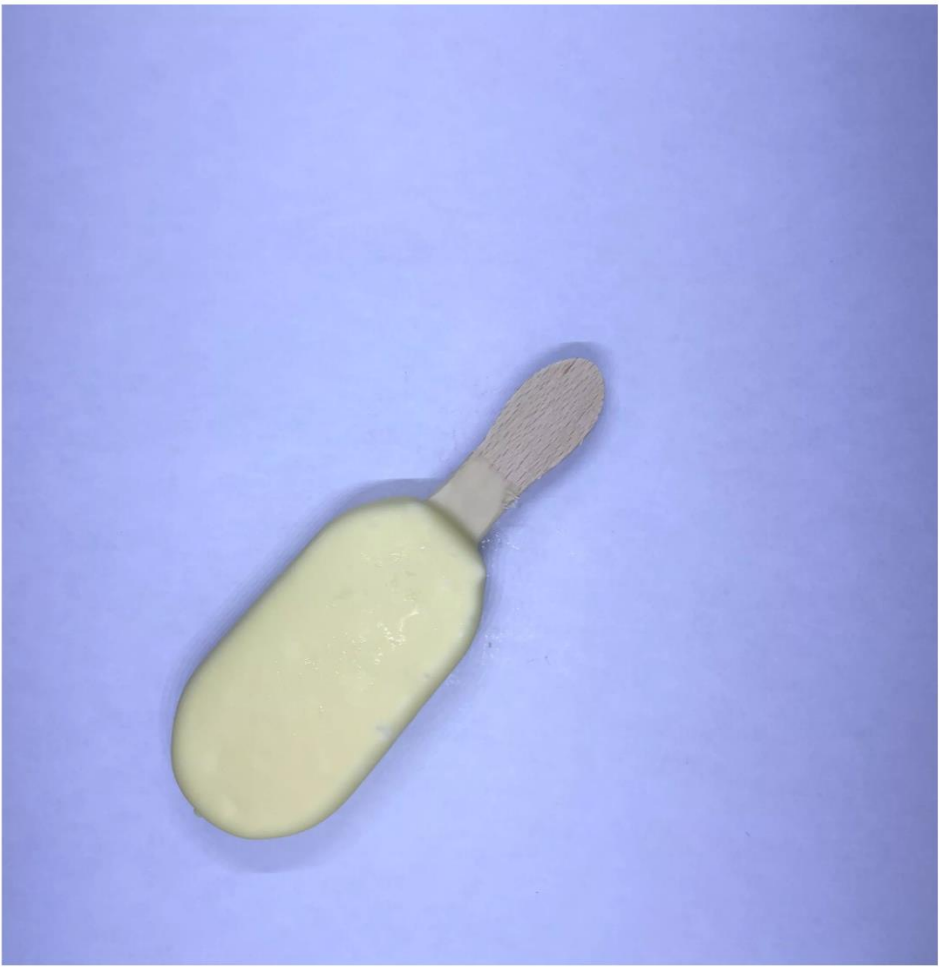
Annotation-Tool [IMG_5835.jpg]

2/7

Eisorten

LABELS User Annotated all none

Vanille	100%	1
Vollmilch	1%	2
dunkel	0%	3
mandel	1%	4



Predicted Annotated Training Set Save & Next

Training (Idle) Start Stop

Autoprediction (Idle) Start Stop

new predictions available

Show Network Details



Choose your solution

Give Input (if needed)

Set up output/recipes

Test and fine-tune

DFN.K

Home Files Networks Training Decisions Tuning Center Settings

Test Center [sn01195474440454734263_EL_plain_rot000_07_defects.png]

3/38

Recipe: crack Save

Prediction Filters: Bucket Sorting

Single Area \geq 1268 px Not OK 2

Total Count \geq 1 Not OK 1

Single Probability \geq 100 % Not OK 3

+ Add sorting rule Reset filters

Name	probability	area	
crack	96.08%	14705	✓

All 1 Relevant 1 Irrelevant 0 Selected Label 1 None

Bucket Not OK 2 View Full



Prediction Stats Image Info

Training (idle)

Predict All

Show Network Details



Choose your solution

Give Input (if needed)

Set up output/recipes

Test and fine-tune

DFN.K

Home Files Networks Training Decisions Tuning Center Settings

Back Page 1 / 4 Next

Filename ... More Filter Options Reset Filters

Sort by: Name Creation Time Update Time View Options

Recipe

Recipe

Bucket Distribution

Bucket	# Items	Loss	Est. Value
OK	7	0,00 € (0 %)	700,00 €
Not OK 1	20	400,00 € (20 %)	2.000,00 €
Not OK 2	11	660,00 € (60 %)	1.100,00 €

Rule

crack/crack: area \geq 9358.37 \rightarrow Not OK 2

save

Rule Histogram Distribution

Relevant Networks

crack

Predict All

crack > cracks

sn01195474474064843641_FL_ sn01195474474064834839_FL_ sn01195474440454734263_FL_ sn01195474440454731060_FL_ sn01195474401911879047_FL_ sn01194633377859279604_FL_



DENK VISION AI Hub

Set-up, optimisation and maintenance of the image evaluation



AI Hub Access

Manage own and client projects

390 €
monthly

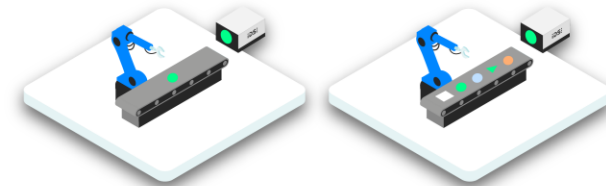
Additional AI Hub Access

+ Role distribution,
+ Data and group features

350 €
monthly

DENKnet Licence

use of image evaluation



Single Question

Per question

700 €
once

Unlimited Question

Unlimited questions

5.900 €
once

IS DENKNET

already in use?



HIGHLY COMPLEX IMAGE EVALUATION

simply implemented

Can DENKnet
does that for me too?



Do you have
images?

