

the art of the possible with
PowerAI Vision

—
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UKI Systems AI
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C 47
HFS
3 IMA 51 / 19

SP F39.9
Tra>Sag2.7>Cor(-1.0)
W 600
C 290

SP F39.9
Tra>Sag2.7>Cor(-1.0)
W 600
C 290
HFS 3 IMA 10 / 19

SP F32.1
Tra>Sag2.7>Cor(-1.0)
W 600
C 290

HFS 3 IMA 11 / 19

SP F39.9
Tra>Sag2.7>Cor(-1.0)
W 600
C 290

5cm

SP F6.7
Tra>Sag2.7>Cor(-1.0)
W 600
C 290

HFS 3 IMA 14 / 19

5cm

SP F0.9
Tra>Sag(2.7)>Cor(-1.0)
W 600
C 290

HFS 3 IMA 15 / 19





Wendy
February 1, 2017



Mark, Sam
February 1, 2017



Mark, Lighty
February 1, 2017



Data Science is a Team Sport

DYLAN
Data Engineer



STEP 1
Extract Data

IRIS & JON
Subject Matter Expert & Line of Business User



STEP 2
Prepare Data

STEP 3
Build Models

STEP 4
Train Models

DANIELLE
Data Scientist



STEP 5
Evaluate Models

STEP 6
Deploy Models

SAM
Software Developer



STEP 7
Use Models

BETH
Business Analyst



STEP 8
Monetize

HILL 1
Subject matter experts with no deep learning skills can label, train, and deploy models for computer vision.

“ We are talking about **saving a seconds at scale**...in the current tool, I don't know how much time is left for each task, **making it hard to budget my time.**”

HILL 2
Data scientists can integrate work from open-source frameworks and use PowerAI Vision to leverage their deep learning models at scale.

“ With models there are many experiments. **Without notes or a log for the model I can't keep track.**”

Welcome to IBM PowerAI Vision



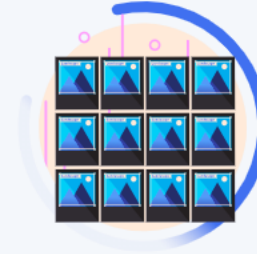
Create Dataset

Start by adding images and video files to a data set.



Prepare Data

Label objects in images and video frames, then use auto labeling to finish adding labels to the whole data set; assign categories to images or videos, or label actions in videos.



Train Model

Select a few custom options to create your model.

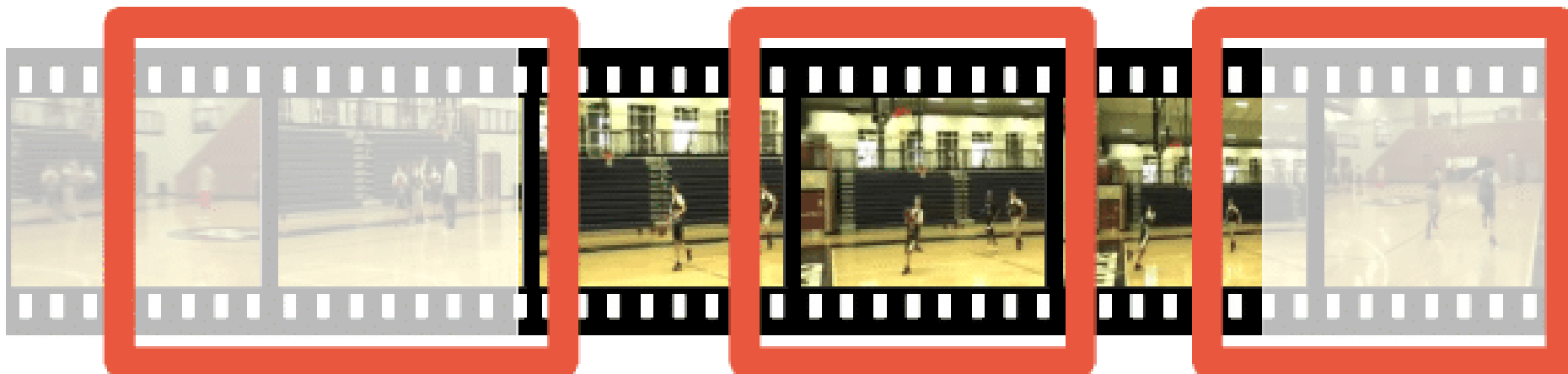
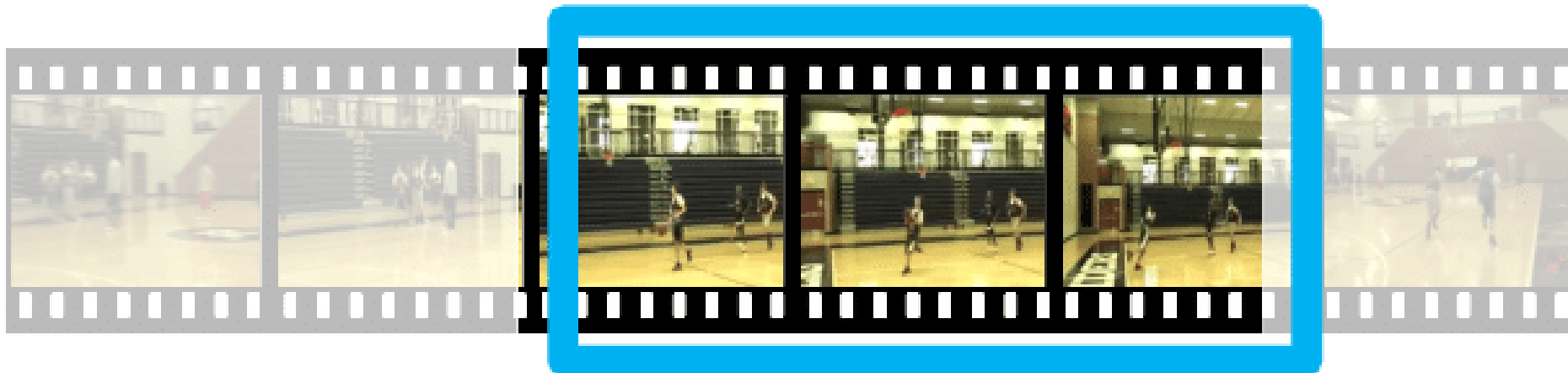


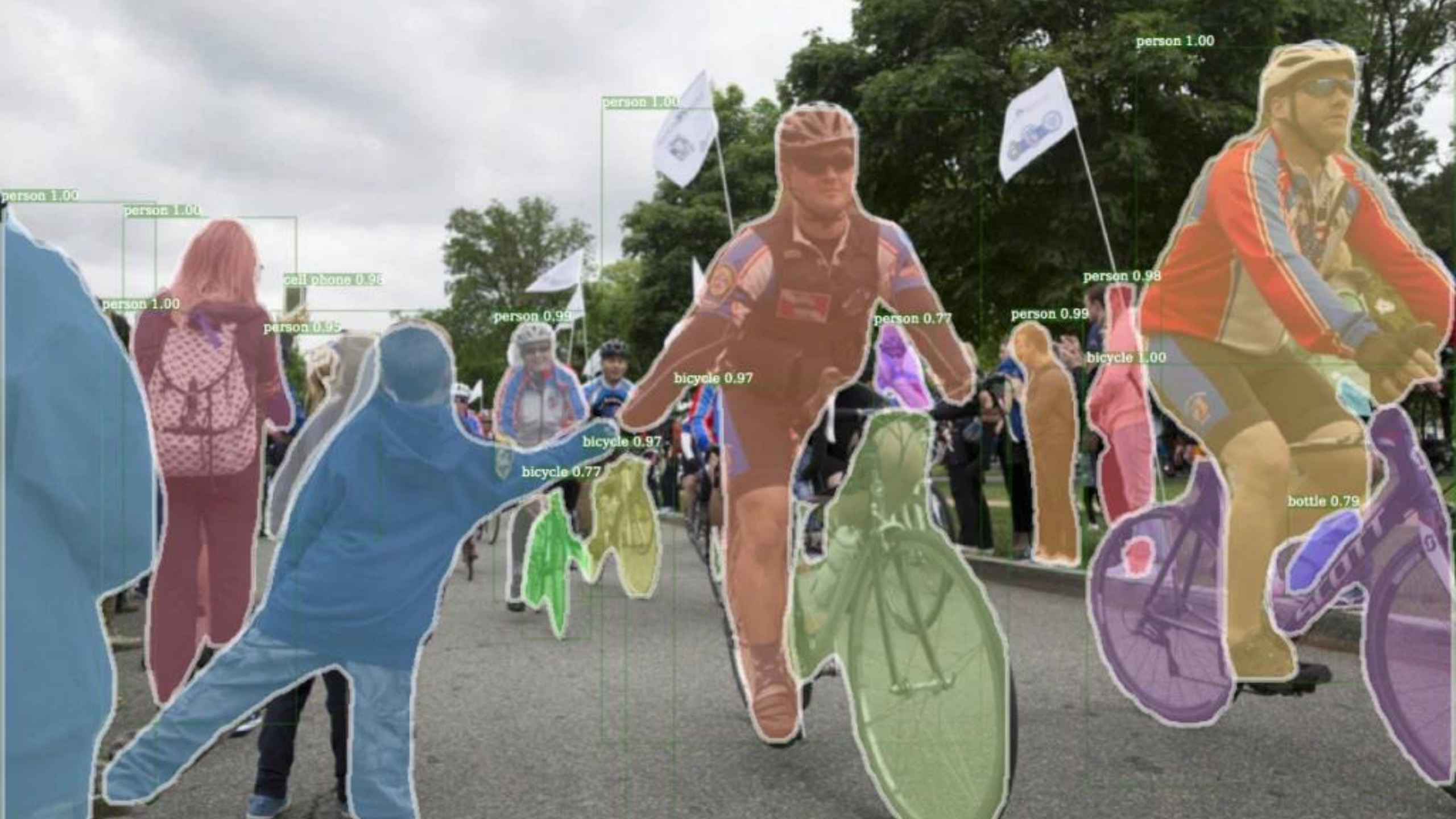
Deploy Model

Deploy the trained model and receive an API link for an inference device.

[Get started](#)







person 1.00

person 1.00

person 1.00

person 1.00

cell phone 0.96

person 1.00

person 0.95

person 0.99

bicycle 0.97

person 0.77

person 0.99

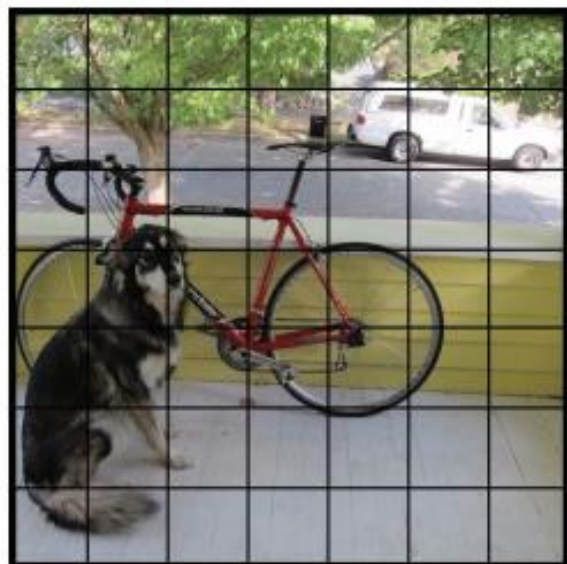
person 0.98

bicycle 1.00

bicycle 0.97

bicycle 0.77

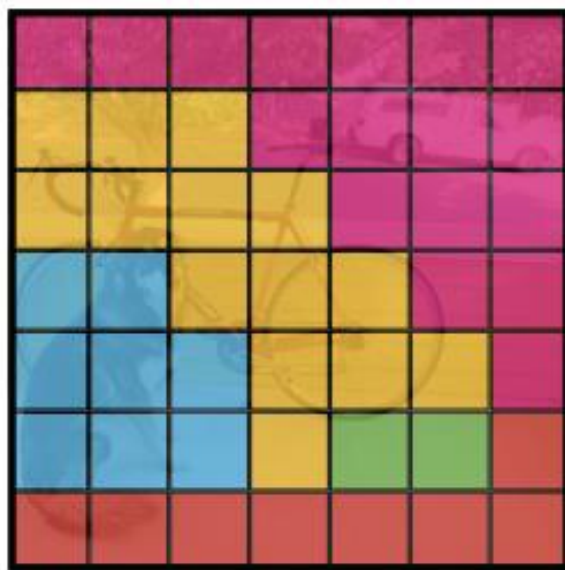
bottle 0.79



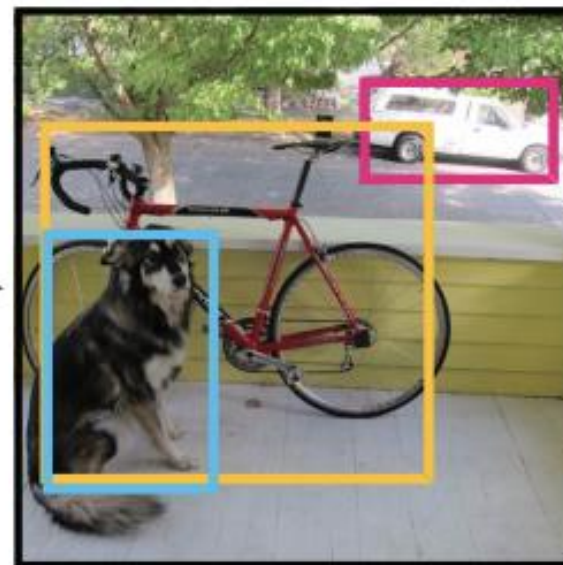
$S \times S$ grid on input



Bounding boxes + confidence



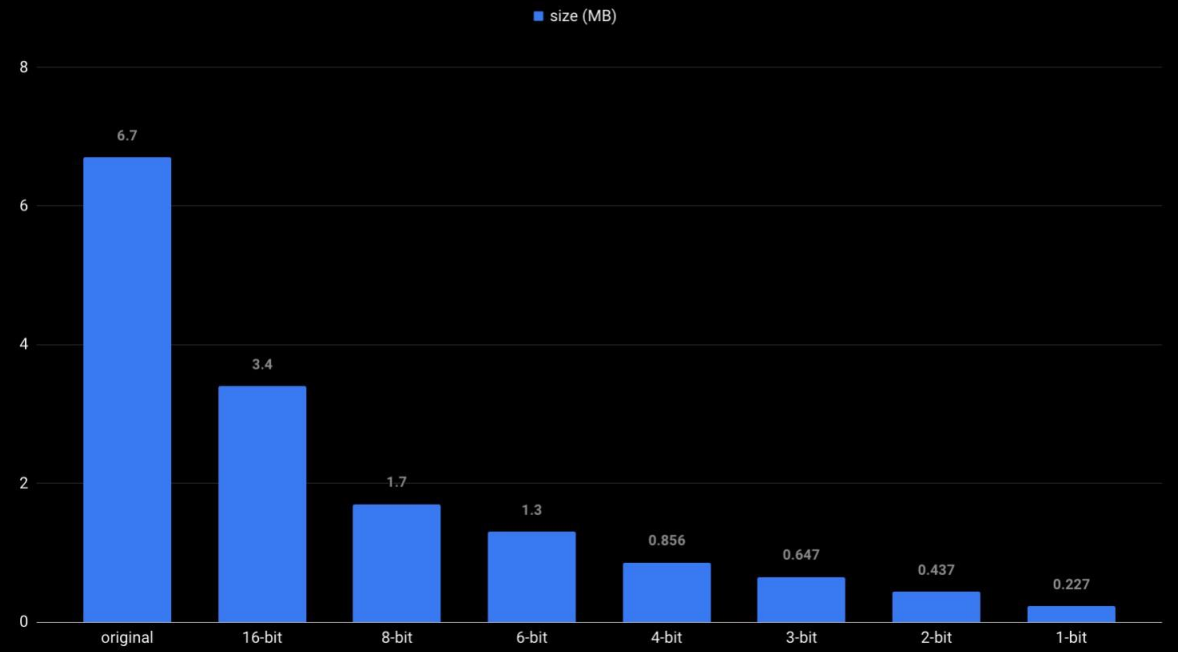
Class probability map



Final detections



Quantized models



IBM Visual Inspector



PowerAI Vision

1

with

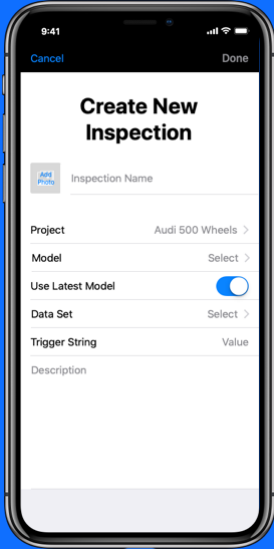


*CoreML

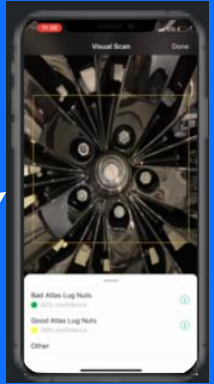
2



App Store



3

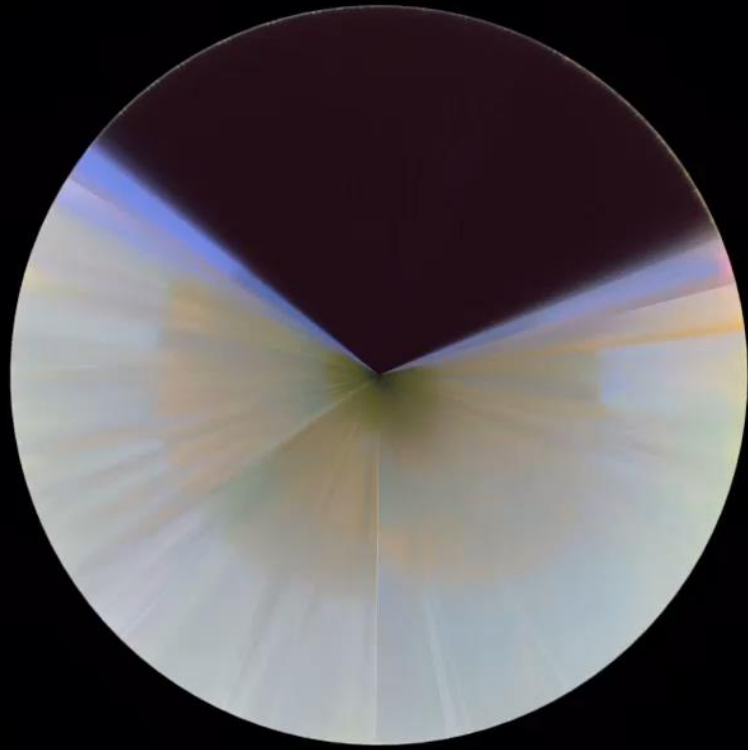


Training for mobile enabled DL models
CREATE a CUSTOM AI Model

Inference on iOS devices
Run INFERENCE on iOS Devices
(App is not customizable by end users)

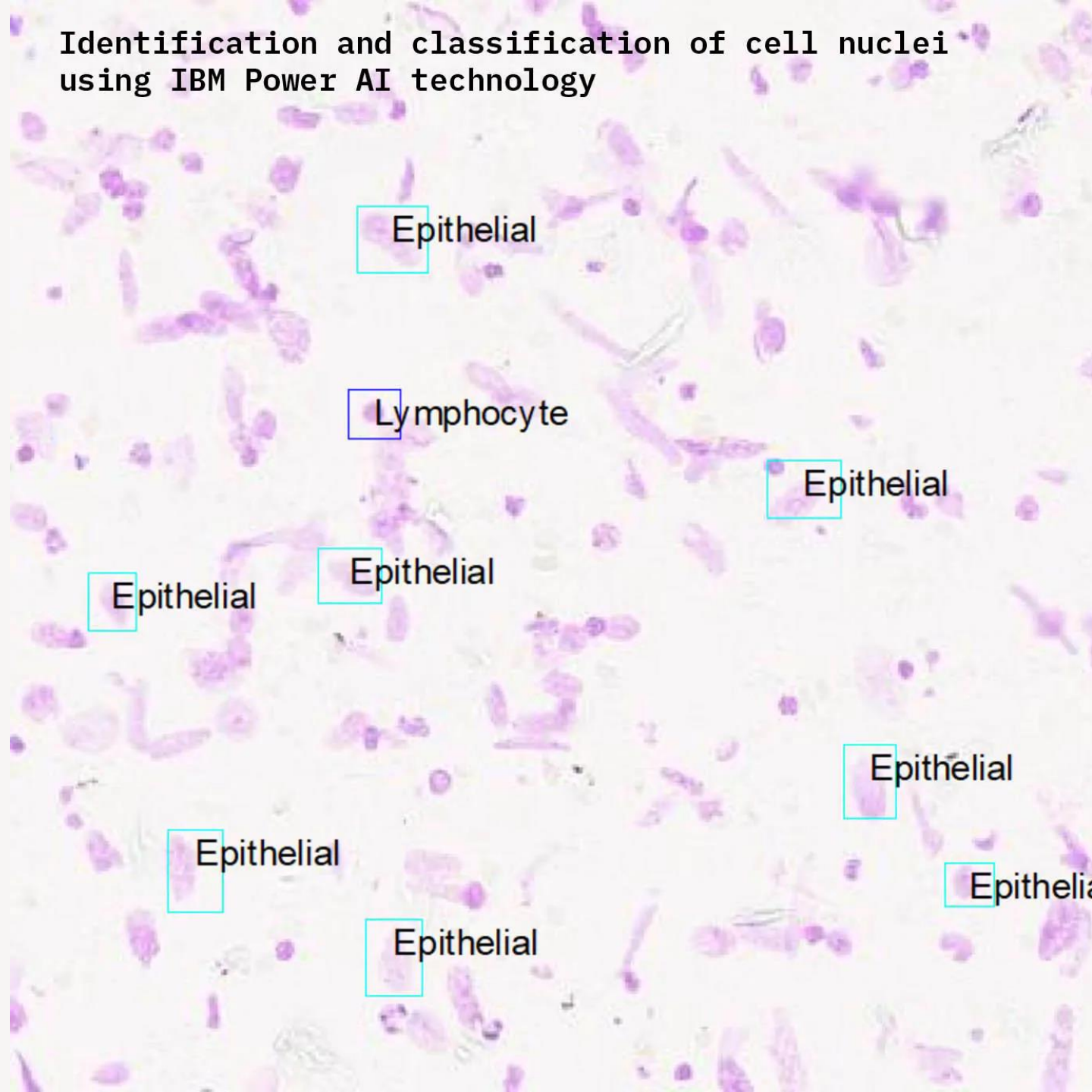


VisualInspec...





Identification and classification of cell nuclei
using IBM Power AI technology

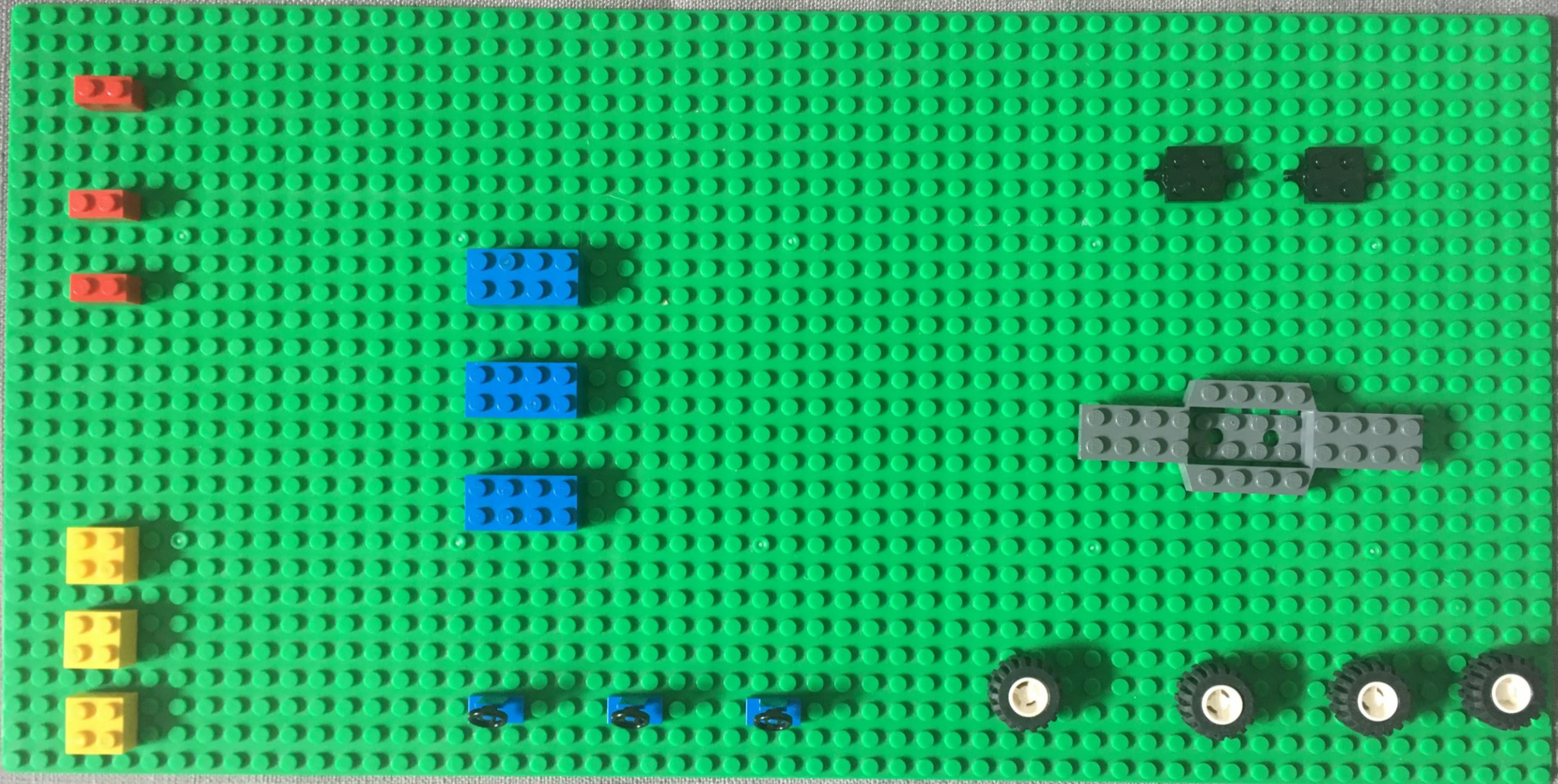


Results



OBJECTS

shark
1 objects





Import

External URL

URL

Upload

To test a video using the API endpoint, click [here](#).

blue_brick (46 objects)

large_grey (16 objects)

joint (28 objects)

yellow_brick (42 objects)

red_brick (32 objects)

[TGS complete_model](#)

Training for object detection...
4,880/6,000 iterations

Aug 16, 2019, 10:35:35 AM

Results

Confidence threshold

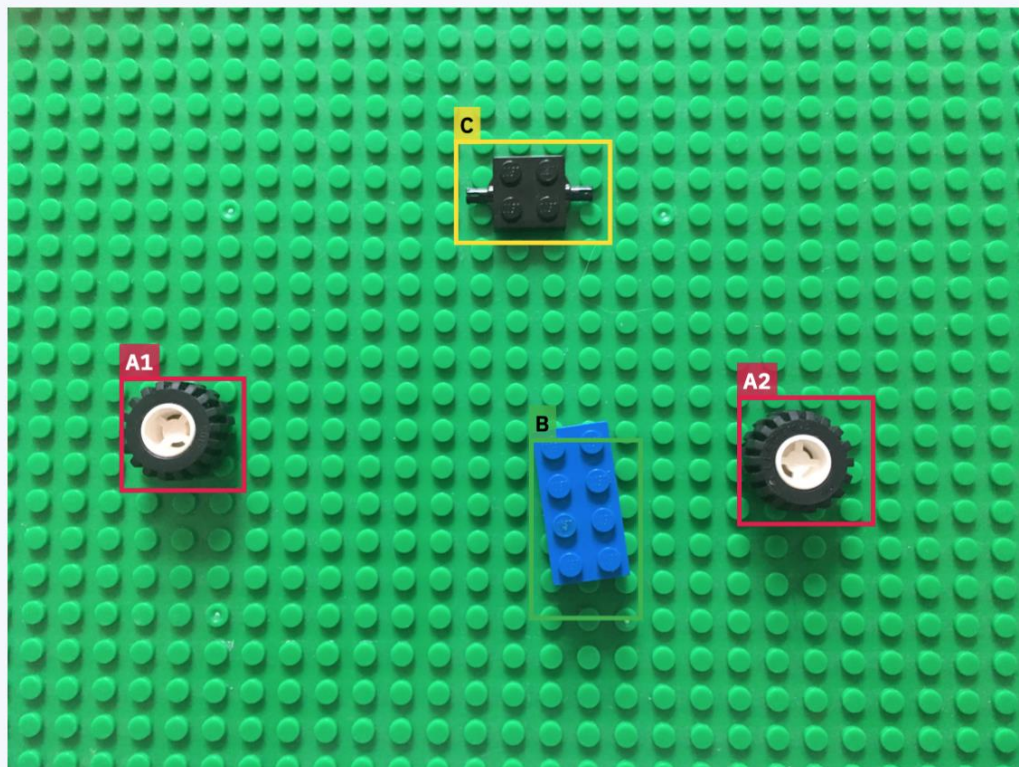


0.5



1

0.5



	OBJECTS	RESULT	AVERAGE
∨ A	wheel 2 objects	-	0.999
A1	wheel	0.999	-
A2	wheel	0.998	-
B	blue_brick 1 objects	0.953	-
C	joint 1 objects	0.967	-

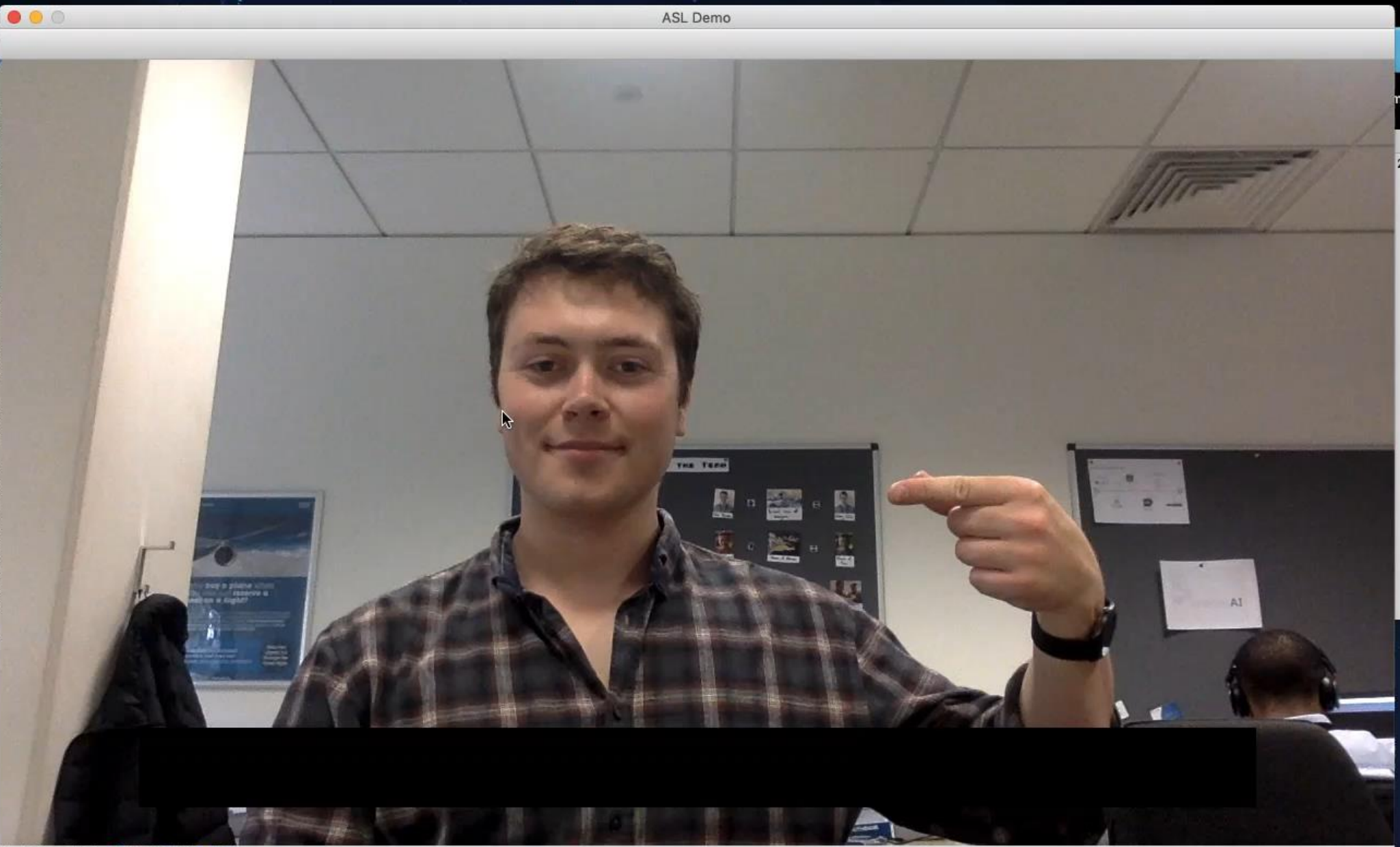


ASL Demo

```

...ts/GitHub/asl_de
DEBUG:requests.pa
DEBUG:InferenceHe
DEBUG:requests.pa
DEBUG:requests.pa
DEBUG:InferenceHe
19, 'ymax': 512,
DEBUG:requests.pa
DEBUG:requests.pa
DEBUG:InferenceHe
04, 'ymax': 512,
DEBUG:requests.pa
DEBUG:requests.pa
DEBUG:InferenceHe
79, 'ymax': 504,
DEBUG:requests.pa
DEBUG:requests.pa
DEBUG:InferenceHe
71, 'ymax': 493,
DEBUG:requests.pa
DEBUG:requests.pa
DEBUG:InferenceHe
79, 'ymax': 509,
DEBUG:requests.pa
DEBUG:requests.pa
DEBUG:InferenceHe
DEBUG:requests.pa
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DEBUG:InferenceHe
DEBUG:requests.pa

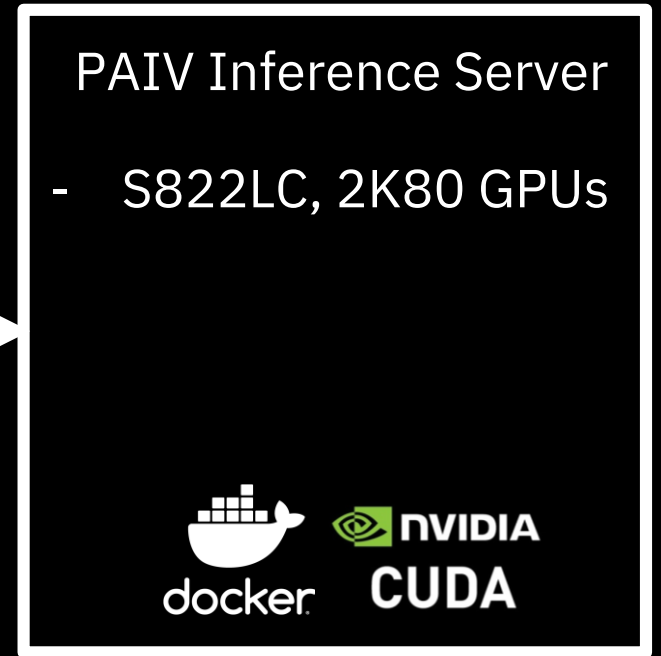
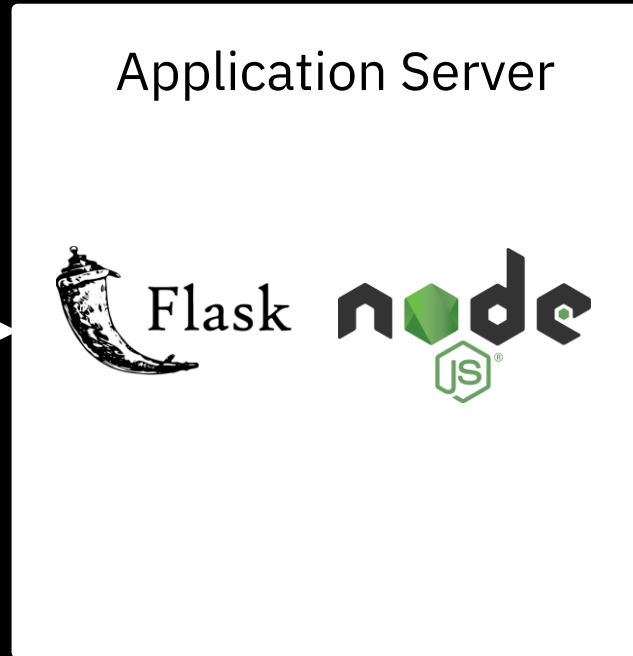
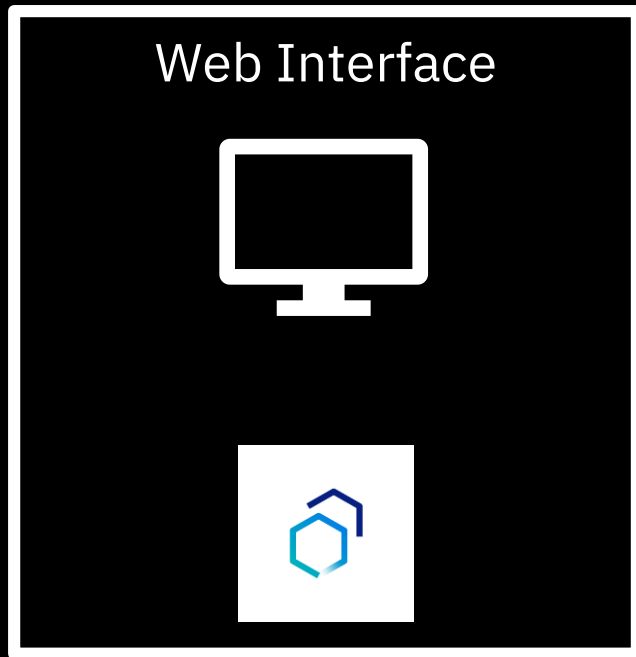
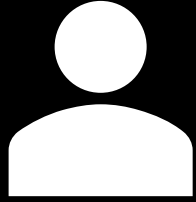
```



Mac@IB 20

 The dock at the bottom of the screen contains several application icons: Finder, Google Chrome, IBM logo, Visual Studio Code, a document icon, a terminal window, a gear icon with a red notification badge, a colorful logo, a globe icon, Microsoft PowerPoint (P), Microsoft Excel (X), Microsoft Word (W), a document icon, a magnifying glass icon, and a small image icon. The text "Mac@IB" and "20" is visible in the bottom right corner.

User

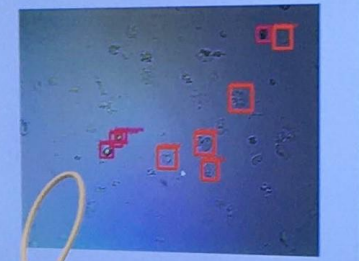


REST

Websocket



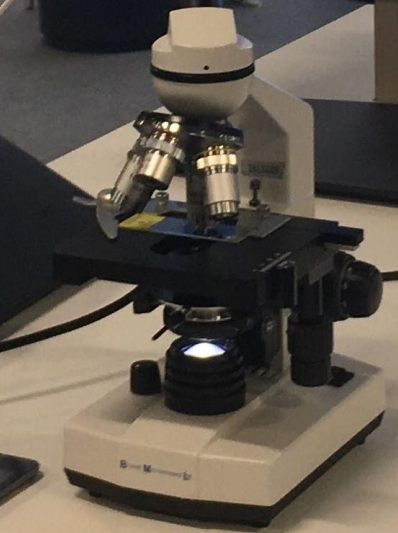
IBM x Oxford Cancer Biomarkers | ColoProg

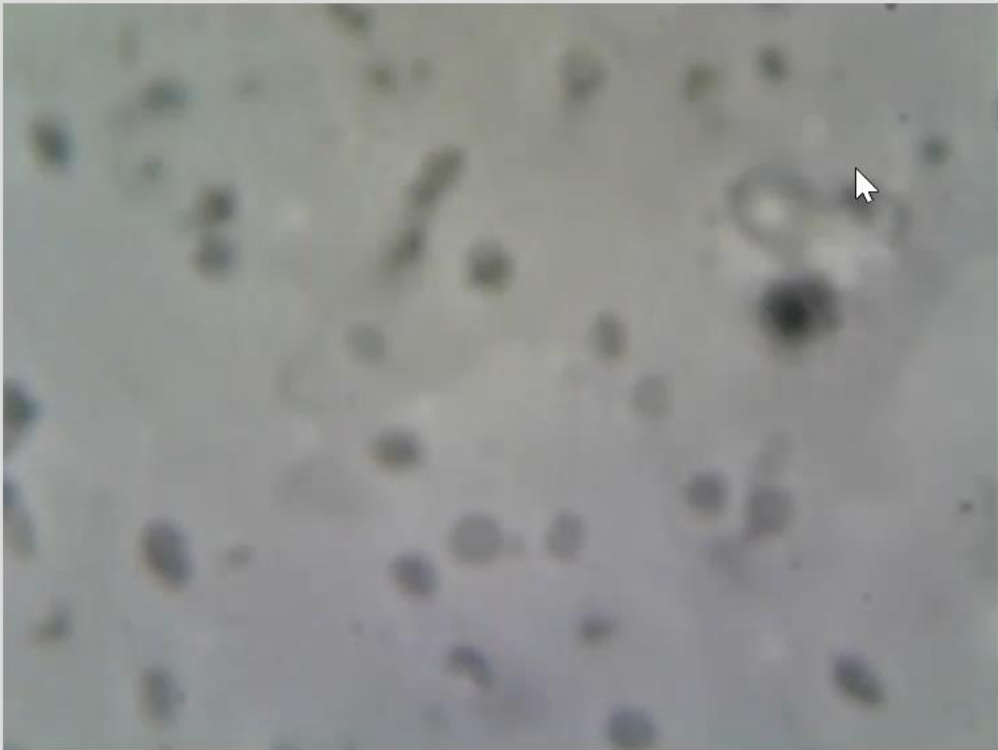


Colon tissue x 40

Epithelial	Fibroblast	Lymphocyte
5	0	4

Running on IBM Power Systems.



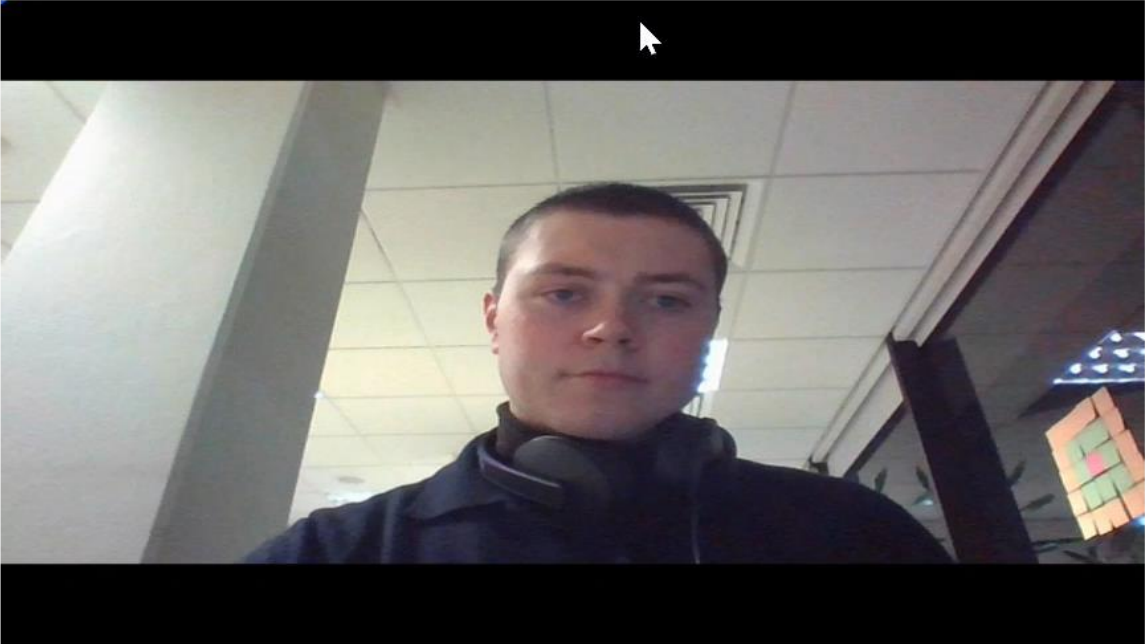


Colon tissue x 40

Epithelial	Fibroblast	Lymphocyte
0	0	0

Running on IBM Power Systems.

Visual Search



Capture

Reset



Use AI to help you locate tools in store!

Simply hold a tool to the camera, and click "Capture"!

Directions

Shop Layout

Location Photo



Welcome to the store!



Start

SwingMatcher

Clear Image



Dustin Johnson Your Match Age: 35 Rank: 3

Use this tool to compare your swing motion to that of a professional golfer. The results are based on a comparison of your swing motion to that of a professional golfer's swing motion.

Partner



35 SAP Pinnacle
Awards
Qualified
Awarded
Proven





SwingMatcher

Clear Image



Your Match

Thorbjorn Olesen

Age: 29

Rank: 70



He finished in fourth place on the third tier Nordic League rankings in 2009, having won three tournaments, to graduate to Europe's second tier Challenge Tour for 2010. During his debut season he claimed his first Challenge Tour title at The Princess, held in Sweden at the beginning of July.



SwingMatcher

Clear Image



Your Match

Donald Trump

Age: 73

Rank: N/A



Trump began acquiring and constructing golf courses in 1999. By the time of his election as United States president in 2016, he owned 16 golf courses worldwide through his holding company, the Trump Organization. Courses owned by Trump have been selected to host various PGA and LPGA events, including the upcoming 2022 PGA Championship.

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