## Data and Applied Sciences Viral Clearance For 7K Series Microscope

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### **INT**RODUCTION

Bosch helped them train models to identify the presence of virus with respect to Cell morphology and texture level details.

- ~99% Accuracy achieved for well segmentation from the input data
- ~92% Accuracy achieved for overall 3 virus stain categories (HPIV, MVM, SuHV) in predicting as positive, negative & Doubtful classes

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Predictions

POSITIVE

Technology

Stack

#### BACKGROUND

- Virus clearance study involves manual inspection of microscopy images to detect the presence or absence of virus in each of the cells.
- Bosch used Artificial Intelligence to automate this manual and timeconsuming process.

### Deep learning-based approach for high

SOLUTION OFFERED

- Deep learning-based approach for high resolution images with image level annotation
- Automatic ring segmentation to identify the region of interest
- Models trained to identify the presence of virus with respect to Cell morphology and texture level details

O PyTorch

#### BENEFITS/OUTCOMES

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- ~99% Accuracy achieved for well segmentation from the input data
- High accuracy of 92.18% achieved in classifying virus presence
- Facilitated better classification decision making through explainable AI models
- Custom Convnet architecture to achieve high accuracy of classification

## DOUBITUL

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