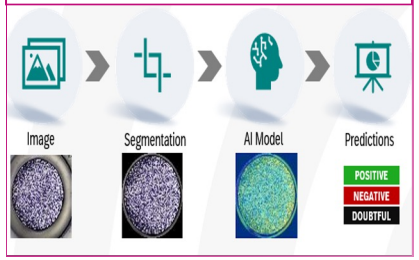
Data and Applied Sciences
Viral Clearance For 7K Series Microscope

INTRODUCTION

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



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 time-consuming process.

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

BENEFITS/OUTCOMES

- ~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

Technology Stack

PyTorch
OpenCV
REST API