Enumeration of bacterial colonies on petri dishes

Developed for an American multinational conglomerate, a leader in offering innovative food safety solutions

Objective

- Detect and count bacterial colonies of varied types of petri dish images

- Target Accuracy: 95% of human performance

Outcome

- Achieved more than 95% accuracy as compare to human performance

- Transfer learning: Trained model with limited dataset size (< 200 data samples for each petri dish media type)

- Deployment done on Single Board Computer having NVIDIA Pascal GPU - 256 CUDA Cores, to achieve the desired timing performance

Tools & Technologies

- Python, Tensorflow, OpenCV, NVIDIA Jetson TX