

Oil Pipeline Defects Detection

Defects Detection

Business Challenges

- Accurate predict defects on steel sheets and visually localize the defect
- Existing models are biased and less scalable. Requirement of deep learning models for faster interpretations, as well support to perform what-if models
- In case a default is detected, solution should also showcase the detected defaults on the image itself

Business Objective

- Support a flexible implementation framework to perform advanced outlier detection
- System should help to perform on-demand visualizations and analytics to understand defects
- System should include neural network models for close-fit predictions

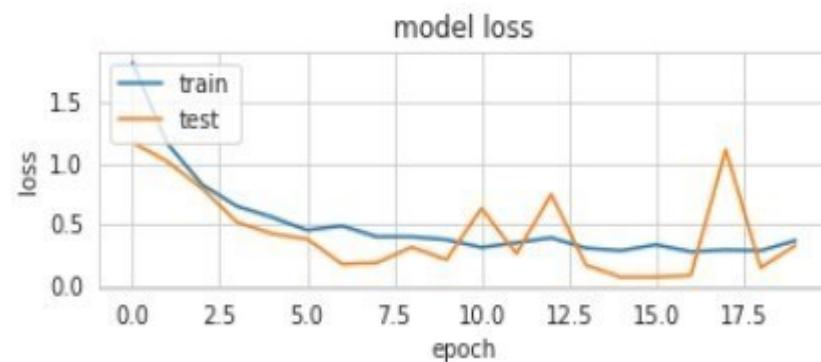
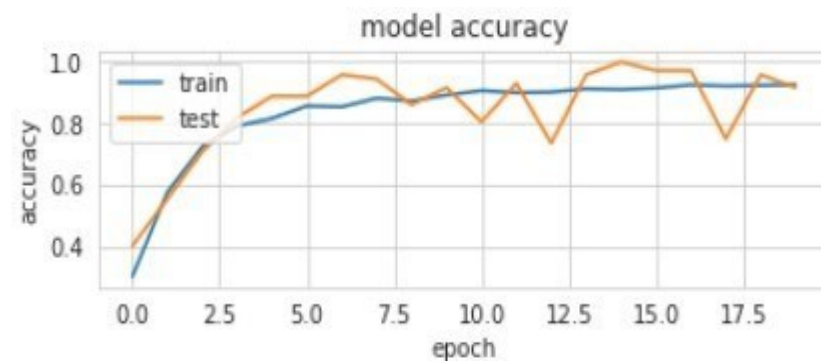
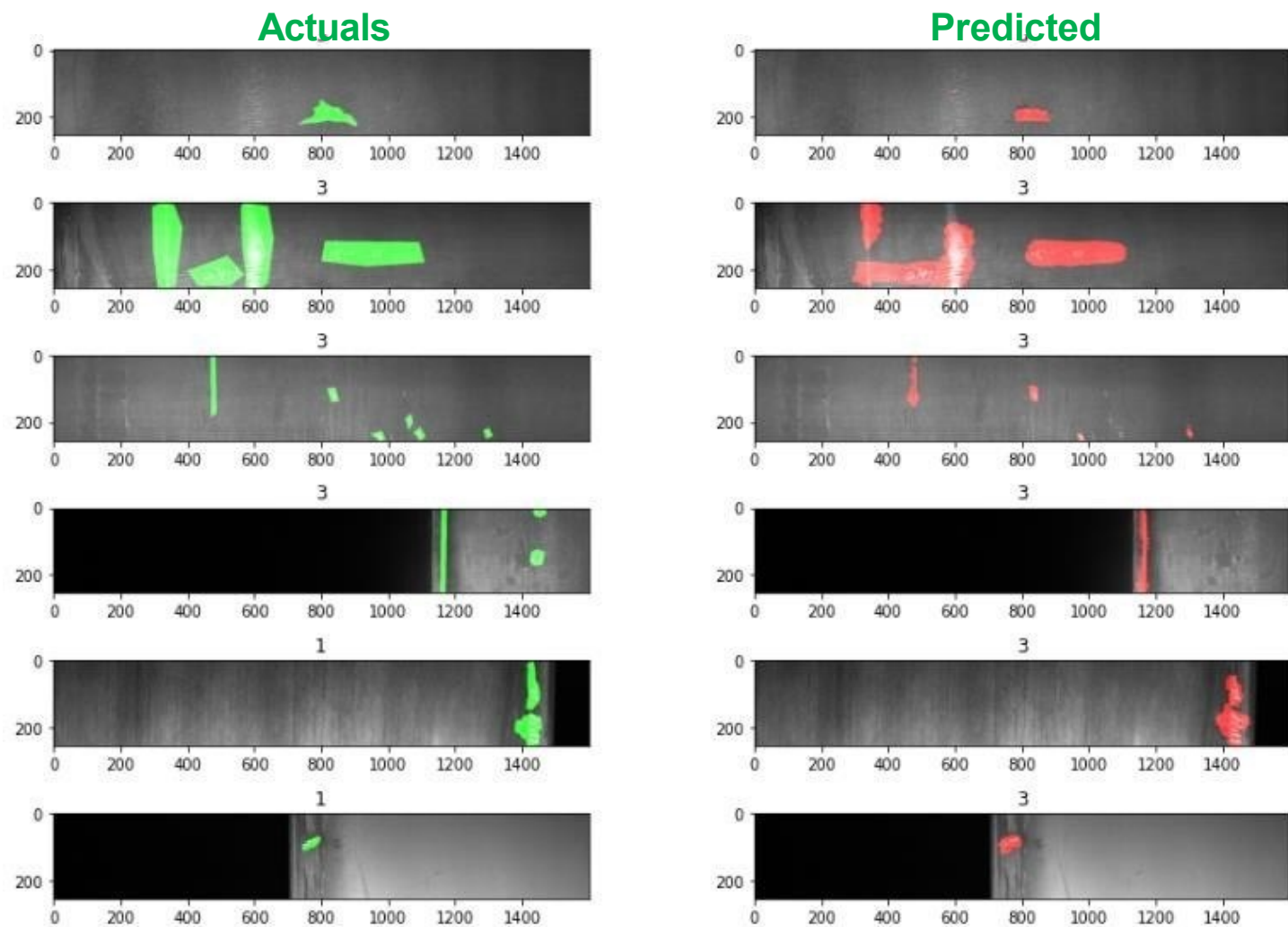
Solution

- Solution is built using an open-source computer vision platform to perform remote inspections and detect deviation from specifications (as defects) during production
- Defects detection using CNN (Convolution Neural Networks). Also, this solution leverages transfer learning using pretrained ResNet50 model
- Solution generates a pixel-wise prediction to localize the defect on the image using a Res-U-net architecture

Business Value

- Solution shows the exact position of the detected defaults on the image (image segmentation)
- App-based streaming on inspected items is shared in real-time to the QC team at production site
- Solution also supports for 3D and AR (Augmented Reality) models

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Thank You

Greenojo provides Automation, Analytics and AI solutions to enterprise customers

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