

Steel Defect Detection

Severstal Competition - Kaggle

One of the leading industries of the world

Steel used in:

- Building & Infrastructure
- Mechanical Equipment
- Automotive
- Metal Products
- Other Transport
- Electrical Equipment
- Domestic Appliances

2020

Severstal is one of the **leading** companies of the world in steel production.

11.3^M tonnes of steel

52.2^K employees

69 Countries

4.7^M tonnes of coal

7^M tonnes of iron ore

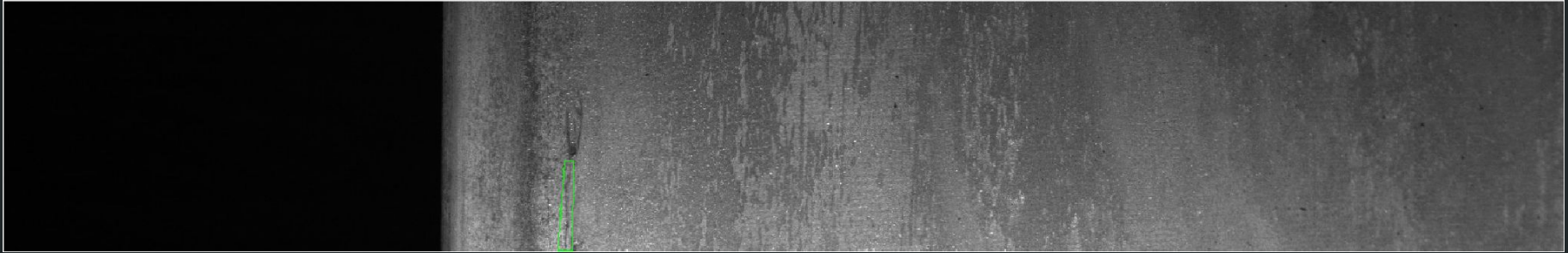
What are the types of the defects?

Type 1



What are the types of the defects?

Type 2



What are the types of the defects?

Type 3

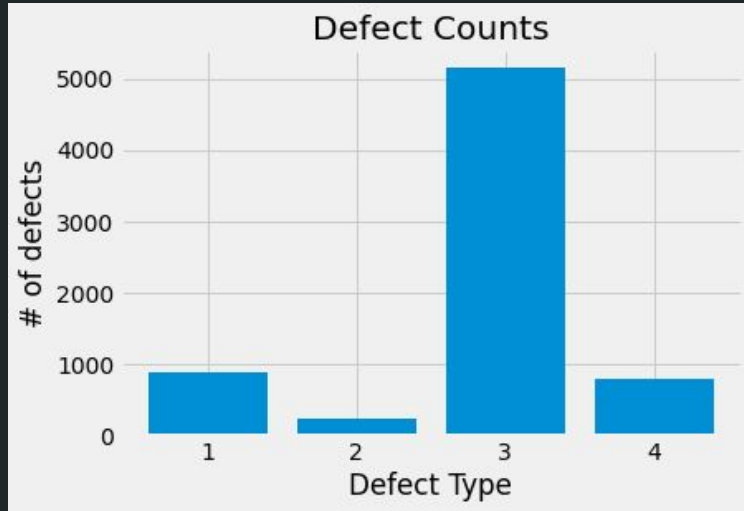


What are the types of the defects?

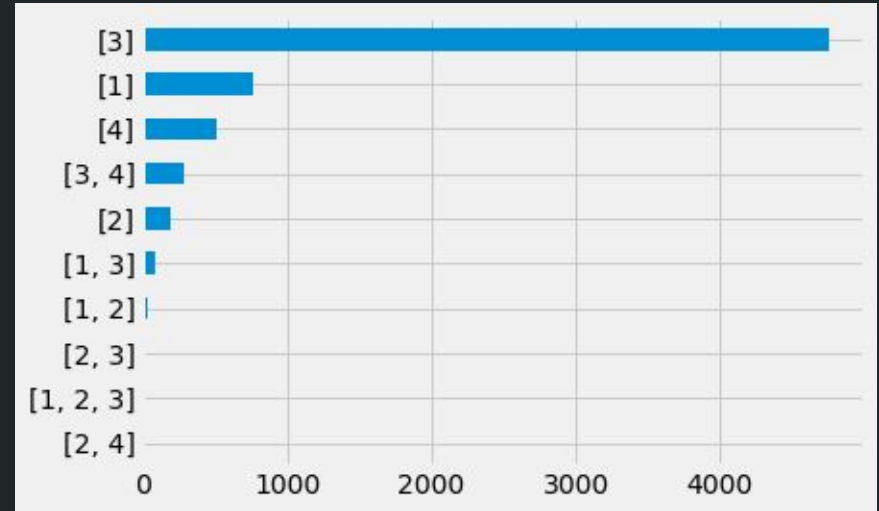
Type 4



Occurrence of the defects



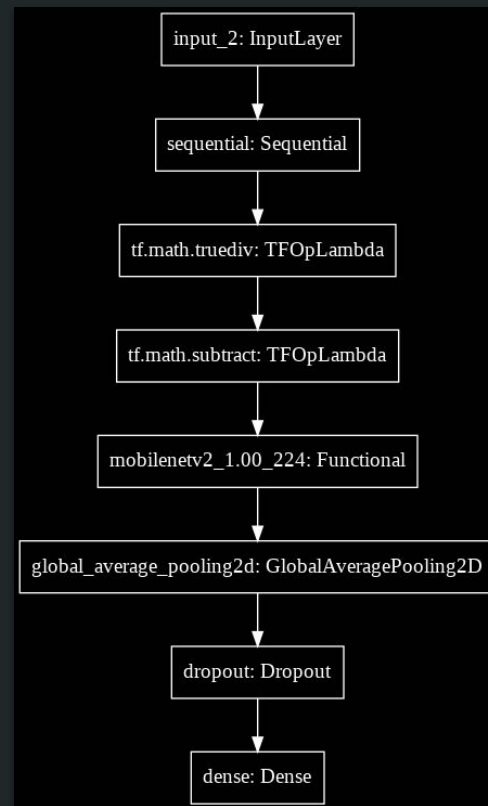
Individually



Combined

Solution Proposal

A neural network **understanding** the defects and **classifying** with **86%** accuracy. Based on ImageNet V2



Solution Proposal



Predicted: Type 3

True: Type 3



Predicted: Type 4

True: Type 4

Conclusion



The diagram is a conceptual layout on a dark gray background. At the top center is the word 'Conclusion' in a large, white, sans-serif font. Below it, a thin white vertical line runs down the center of the page, dividing the content into two equal-width columns. The left column contains the heading 'Current Solution Scope' in bold white text, followed by two lines of white text: 'Classification of defect types' and 'Reducing business workload as first phase'. The right column contains the heading 'Further Steps' in bold white text, followed by two lines of white text: 'Increasing accuracy' and 'Detection of the position of defects'. At the very bottom of the image, there is a solid horizontal bar of light green color.

Current Solution Scope

Classification of defect types

Reducing business workload as first phase

Further Steps

Increasing accuracy

Detection of the position of defects