# 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

11.3$^M$ tonnes of steel

52.2$^K$ employees

69 Countries

4.7$^M$ tonnes of coal

7$^M$ tonnes of iron ore

**Severstal** is one of the **leading** companies of the world in steel production.
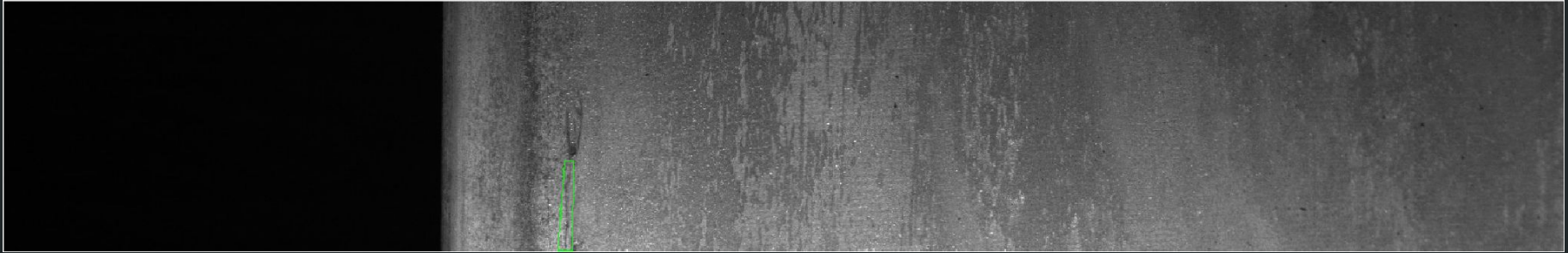
What are the types of the defects?

Type 1

# What are the types of the defects?

## Type 2

# What are the types of the defects?
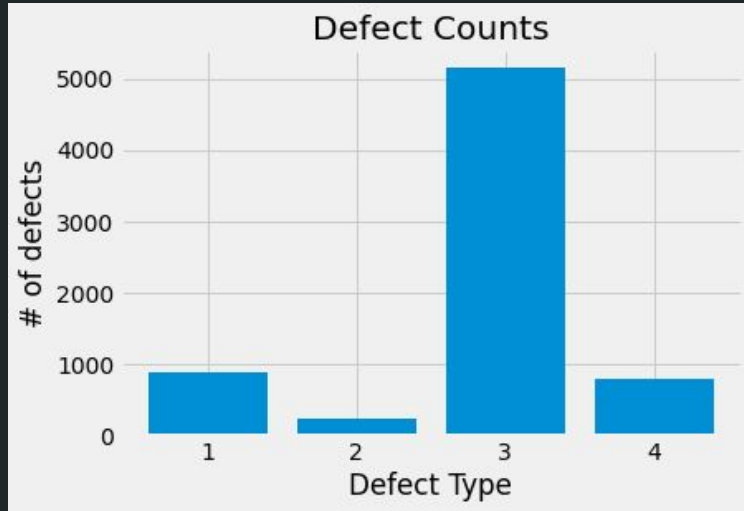
## Type 3

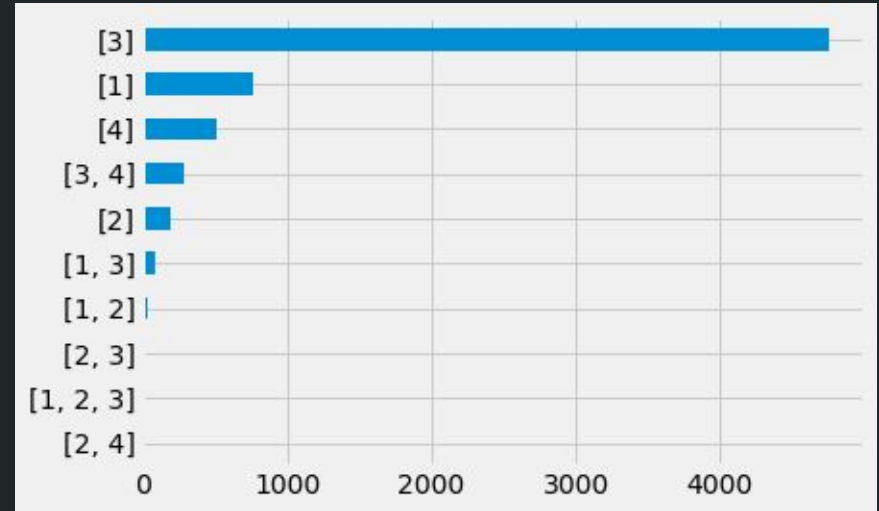What are the types of the defects?

Type 4
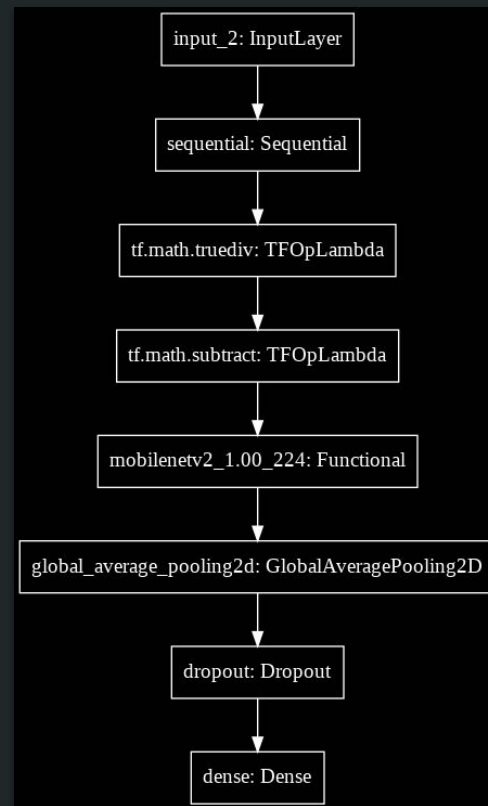
# Occurrence of the defects



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

## Current Solution Scope

Classification of defect types

Reducing business workload as first phase

## Further Steps

Increasing accuracy

Detection of the position of defects