

Best way to improve safety globally: the SuperVisor

Powerful camera monitoring system, powered and made **extensible** by NLP

What we have so far, and how to build it

Data enhancement

steel factory accident



FILTER



Accidents At The Steel Plant 2017

Mr Scissors • 66K views • 10 months ago

Accidents At The Steel Plant 2017.



TOP 10 Accidents In Metal Industry

TOP 10 INFORMATION - TTI • 5.8M views • 5 months ago

10 Accidents In Metal Industry! This Video talks about different kinds of risks that is associated in industry. So, that we can ...

CC



AMAZING: Accident At Steel Factory In Poland Causes Phenomenon

Morris BX • 30K views • 7 years ago

<http://MorrisVideos.com> Follow us at: <http://Twitter.com/ThatHustle> <http://Twitter.com/MorrisVideo> steel plant in Poland, ...



Accident in Steel Factory - Lucky Man Escapes Death

LiveLeak TV • 78K views • 7 months ago

A worker escapes death when the chain carrying a cauldron filled with molten copper breaks, making it fall over.

Youtube queries to get data (max 50 videos):

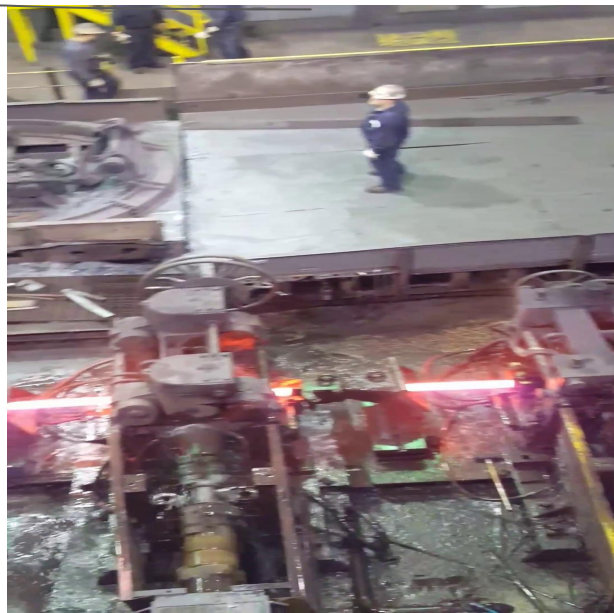
1. steel factory accident
2. steel mill accident
3. casting line accident # Also has some fishing videos, and Mr Bean at the doctor
4. hot strip mill accident #10
5. continuous annealing line accident #10
6. jet vapor deposition accident #10
7. hot dip galvanising line accident #10

Label the second of occurring accident in 105 videos (if any)

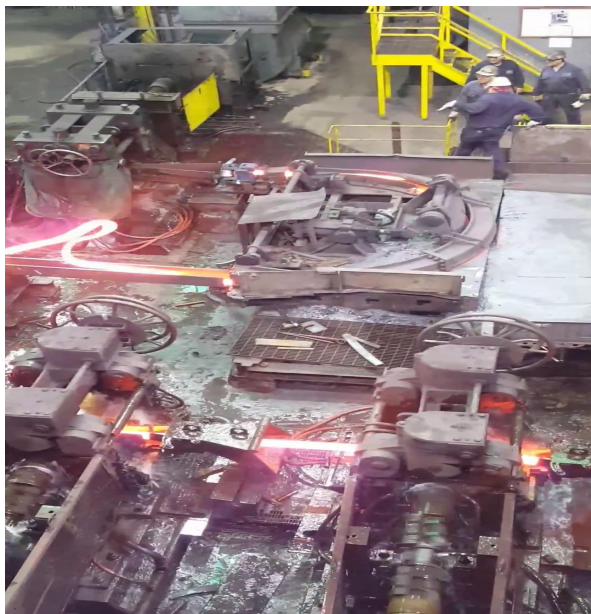
Extract 1 frame per second

Accident detection model

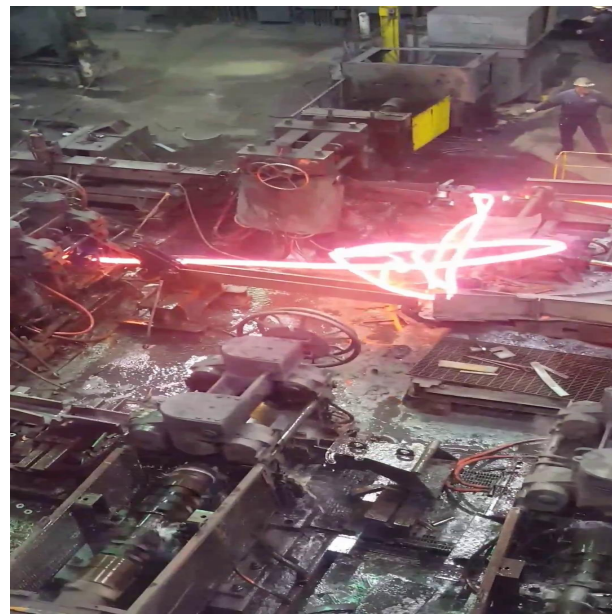
Before



0:35



After

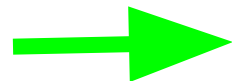


Accident prediction model

Accident

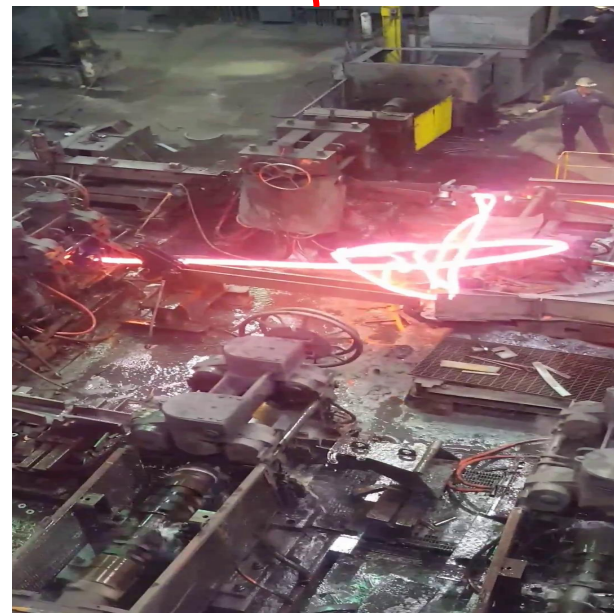
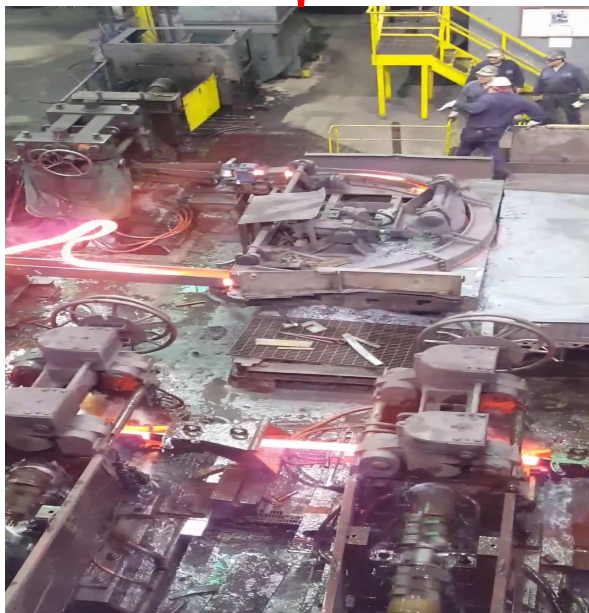
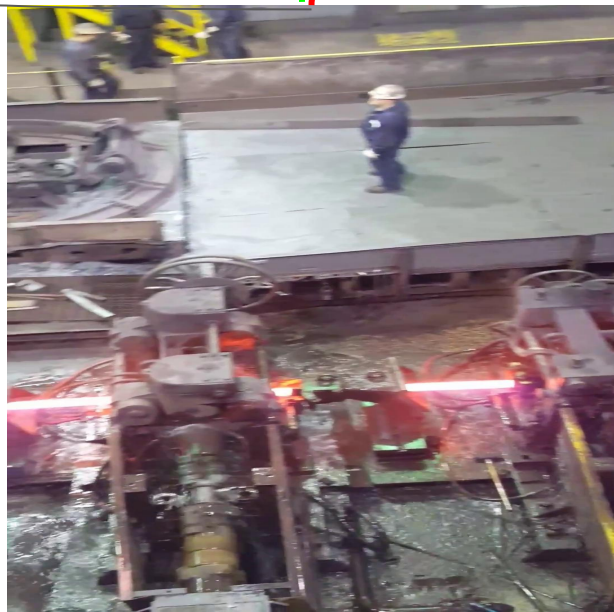


No accident



Before

0:35



Safety focus

LTI accidents by category

Violation of safety rules

52%



- Routine
- Situational
- Exceptionally

including violation of traffic rules

Wrong method/violation of rules as team

32%



- Rule based
- Knowledge based
- Forgetfulness

Lack of attention

10%



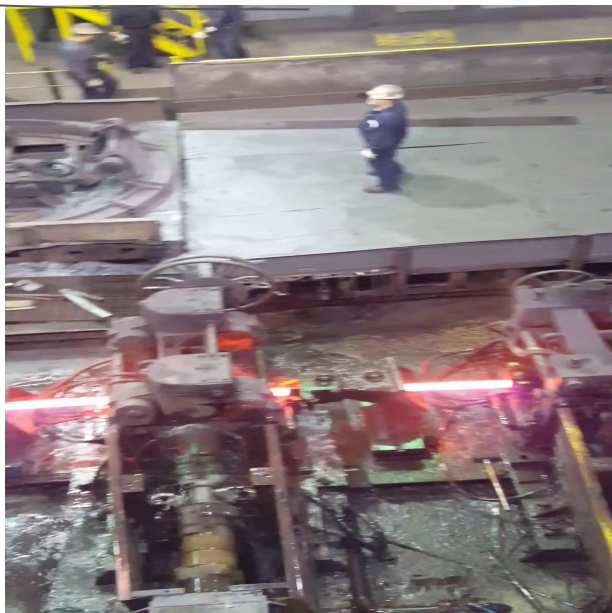
Technical & process errors

6%

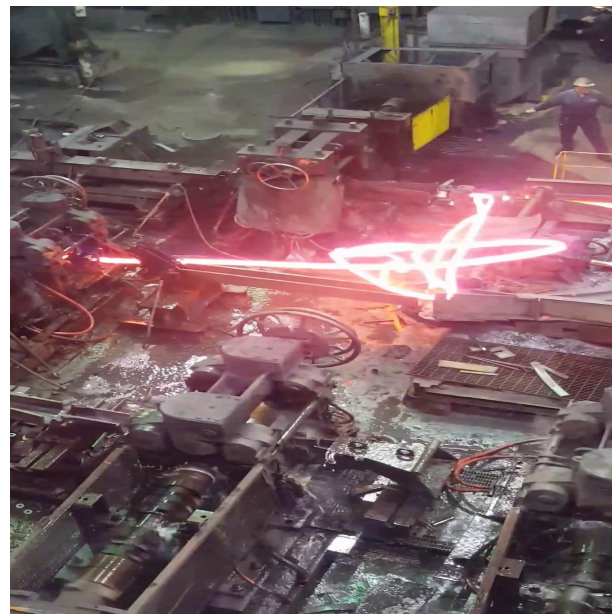
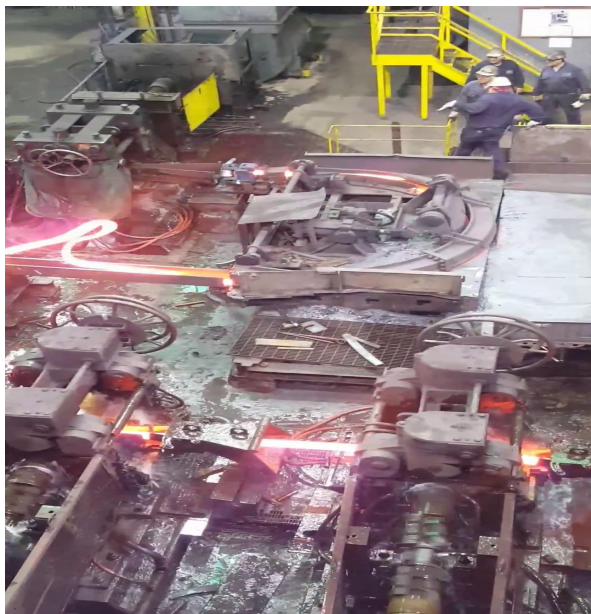


NLP hack: show and tell

a man is standing in front of a
large truck .



a display of various types of
luggage on a table .



Current state and future

- Currently: extract some text data, embeddings

NEXT STEPS:

- 1. Label data: align frames and safety instruction text.
- 2. Get cross-modal embeddings by training a single supervised model.
- 3. Then for every frame we can detect text of situation.