TECHNICAL SAFETY SURVEILLANCE SYSTEM

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Imagine that you have a facility that requires some safety requirements that are critical to your staff. Usually companies require their workers to have it before entering to the industry zone, but unfortunate accidents are inevitable due to some unexpected reasons. This problem becomes especially significant on high-dangerous objects like construction sites.

Problem definition

RIGHT NOW

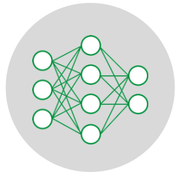
Multi-stage verification

HIRE ADDITIONAL STAFF

People who can monitor in the place

ADD CAMERA SURVEILLANCE

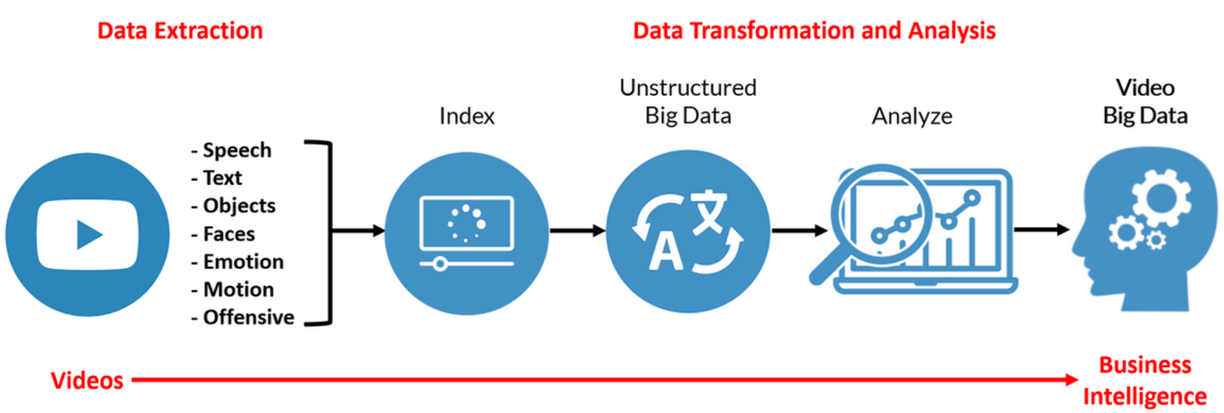
Requires additional costs to have people who should analyze data from cameras



WHAT ABOUT

Collect data from cameras and detect inappropriate cases autonomously

Possible solutions

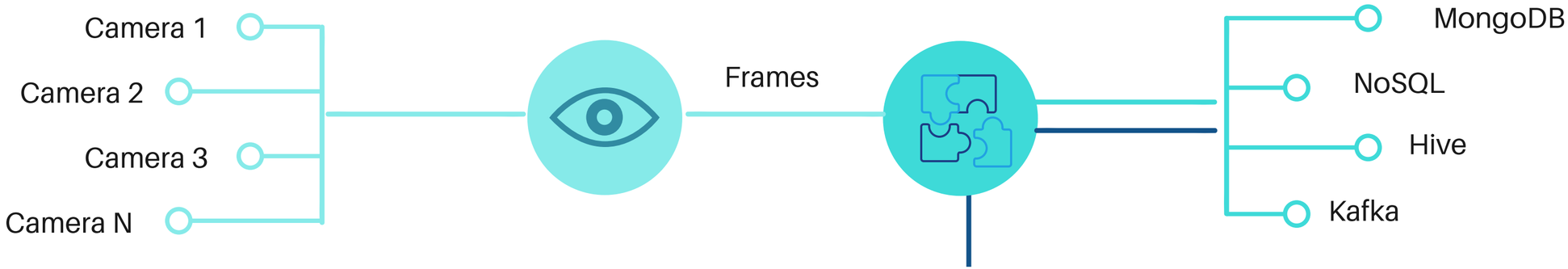


PROBLEMS WITH RESOURCES

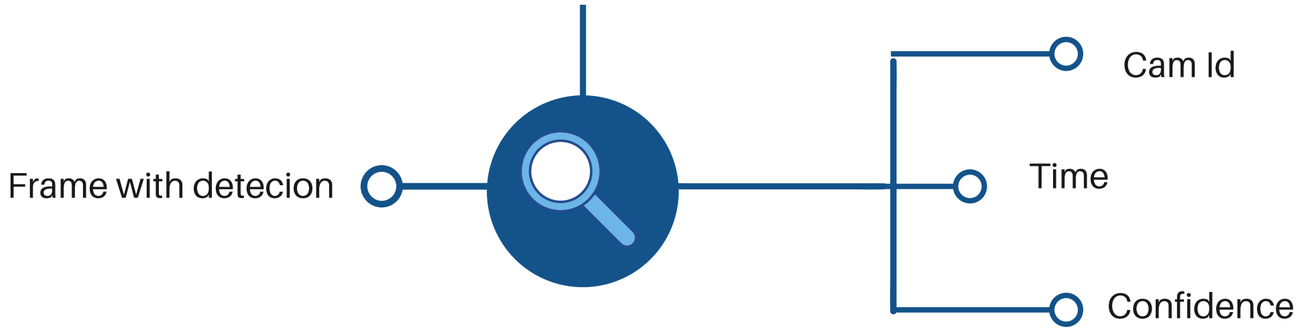
Analyzing videos becomes computationally expensive as number of cameras increase

Do we need to analyze the whole video?

What about frame separation?



DEEP LEARNING MODEL



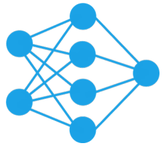
Surveillance environment

Distributed database

Analysis

USED ARCHITECTURE

Information about applied libraries and APIs

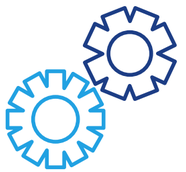


DL Architecture

Inception V2 Region-Based Convolutional Networks

Libraries

- Tensorflow 1.14
- Open-CV



API

Object Detection as a part of Tensorflow research

Dataset

Custom safety helmet dataset VOC-2028