



PERUNGAZE

Video Object Detections Service



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Project description

Perun Gaze is a service implemented on the surveillance platform. This service helps administrators to identify third-party objects and people in guarded areas using surveillance cameras with infrared or thermal sensors.

Main features

- Deep Learning
- Detecting
- Monitoring
- Analytics
- Controls
- Decision-making



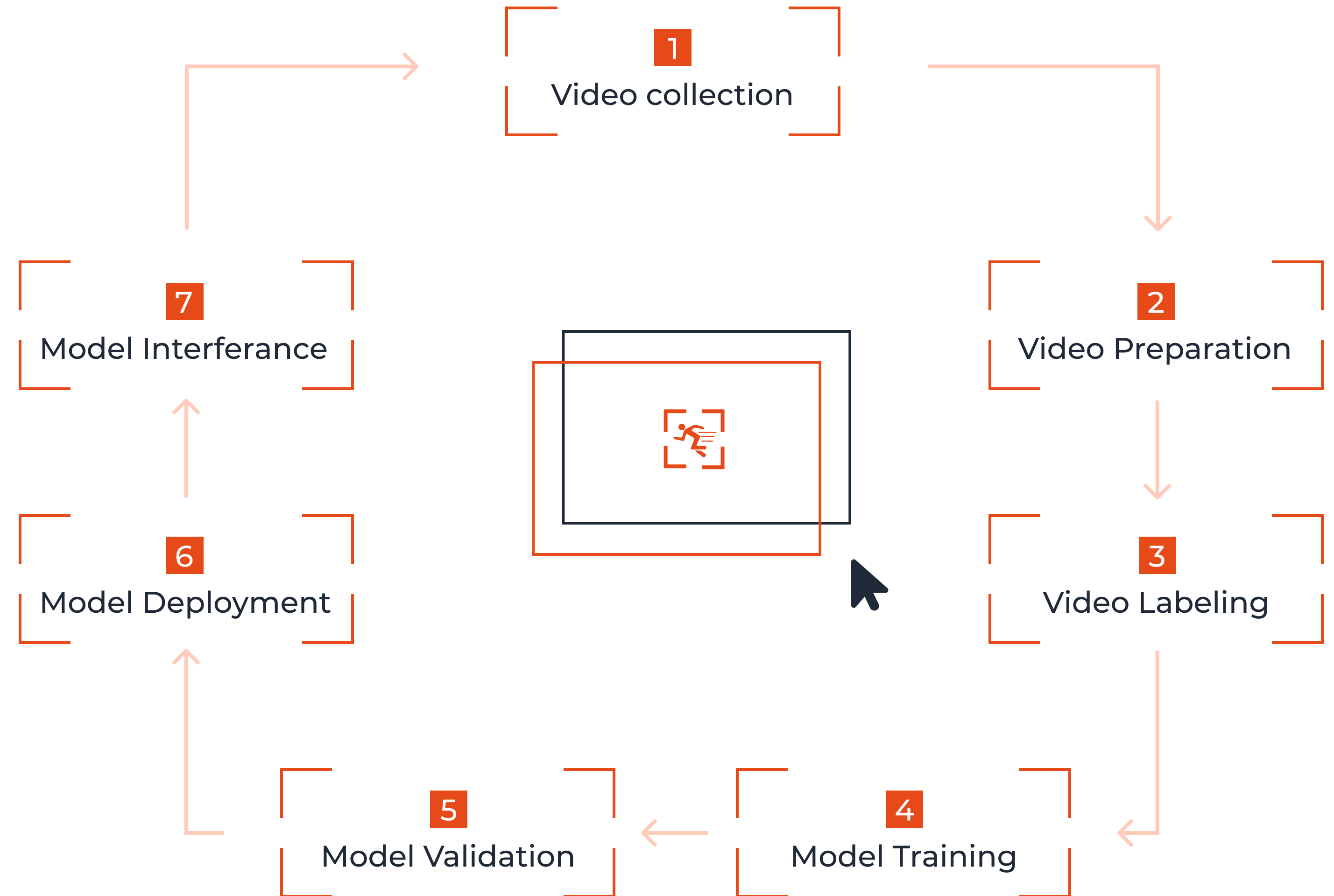


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Model Lifecycle

The software performs a cycle of special operations that is called Deep Learning, which helps to process the data more precisely and makes for a more accurate result in detecting the motion and objects.

In addition, the scheme shows the infinite lifecycle that constantly improves the system.

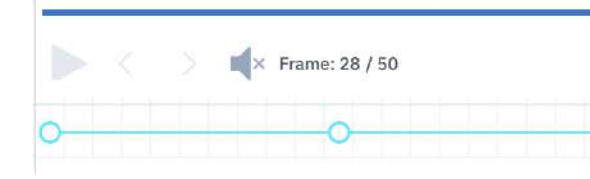
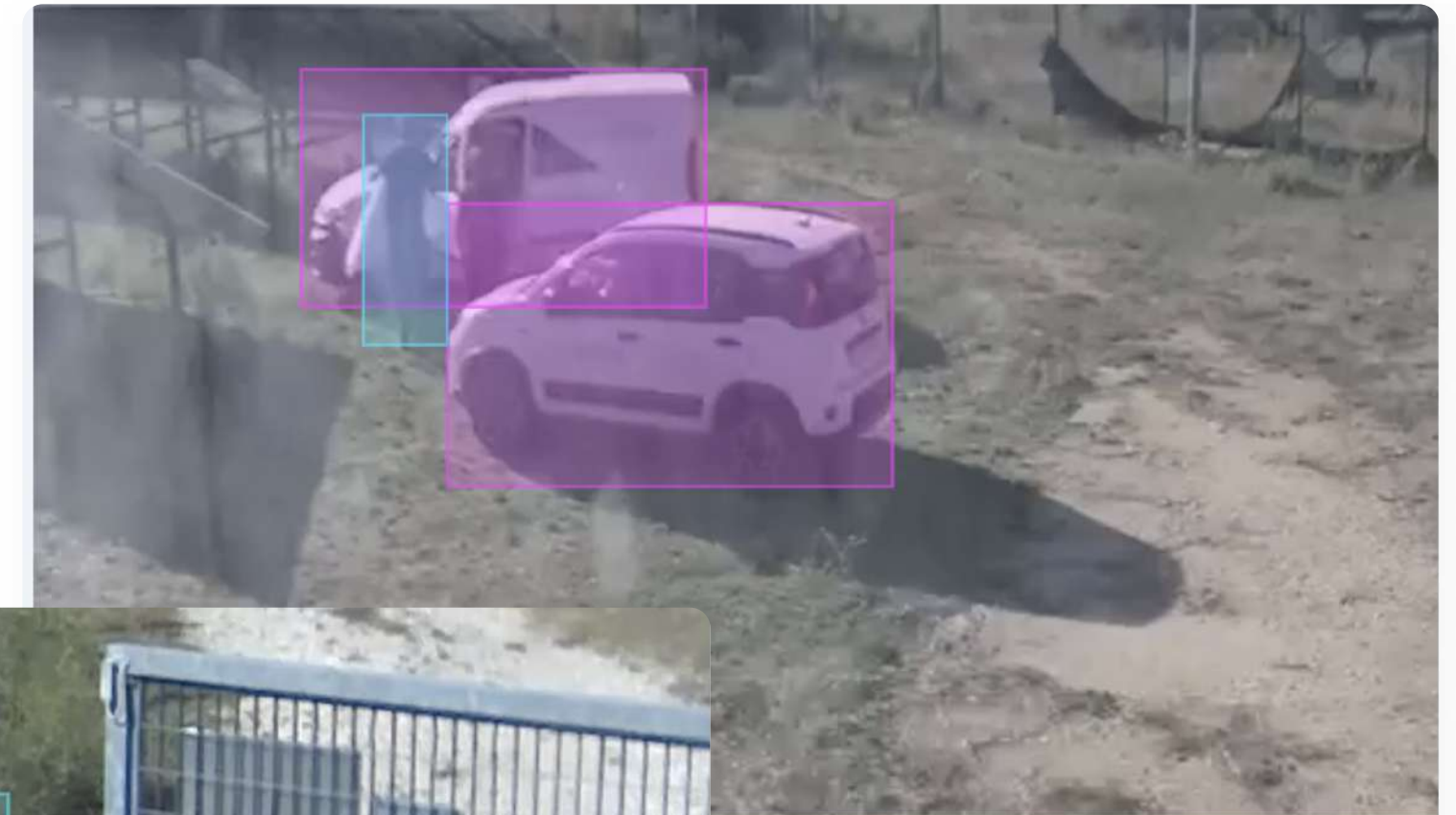




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Labeling

For capturing third-party objects, we use the service that helps to label already detected objects on the guarded territory. And apply the needed information to the video files obtained from the surveillance cameras.





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Objective

Develop a service that helps to identify detected objects more accurately in an existing video.

The main task was implementing the labeling without changing the initial video in the database.

Solution

Ready-made videos with detection objects were taken as a basis. Then, data with coordinates and types of detection objects were calculated separately with the help of Machine Learning (ML).

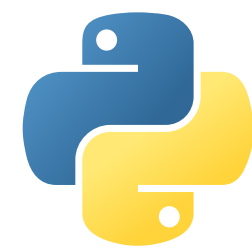
The result is a visual representation of moving objects in the bounding boxes with the type and percentage of recognition.





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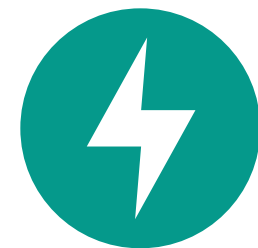
Technologies



Python



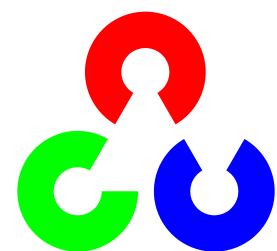
Pytorch



FastAPI



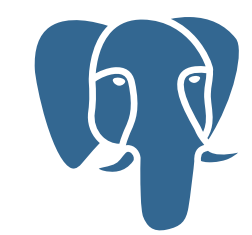
Rabbitmq



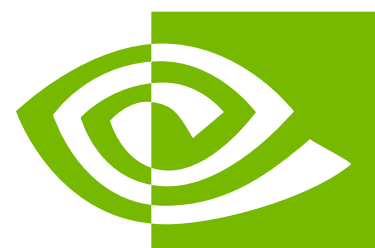
Opencv



Docker



Postgres



Nvidia



Wireguard



Labelbox

Timeline & Team

6

team
members

8

weeks of
development

10

technologies of
development



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