

AI PROJECTS

Real-time face detection and recognition

About

The client is a company specializing in AI implementation, particularly in developing autonomous robotics that secure and protect both premises and employees. Since 2015, they have been advancing the future of security through Artificial Intelligence.

Challenge

The client set an ambitious goal: to secure business premises and spaces from potential burglaries. They aimed to create an autonomous robot capable of monitoring facilities and transmitting danger signals in case of any threats. While they had already developed the hardware — the robot — they needed software to identify, process, and recognize individuals.

**INDUSTRY:**

AI Startup

**LOCATION:**

France

**TECHNOLOGIES:**

OpenCV, TensorFlow, PyTorch, Scikit-image, AWS

Project Overview

The required software relies on deep learning for quick and accurate identification of individuals. In essence, we needed to convert raw data into actionable commands for person detection and spatial awareness, including gate detection.

Face and Eye Detection

We began by collecting a dataset of images to train the algorithm. This was followed by data normalization to ensure consistent face recognition under various conditions. The process then moved to feature extraction and identification.

Person Detection

A similar approach was used for person detection. We collected and identified images, isolating human figures from the background while accounting for human sizes, boundaries, and other relevant features.

Gate Detection

To enable the robot to patrol and navigate premises effectively, we developed functionality for detecting and classifying different types of objects and spaces, including gates.

Results

After completing the software development, our team showcased the project at a major tech conference, where it received significant positive feedback. The presentation also attracted interest from potential investors, providing opportunities to further grow the project.