Smart Gate System

Authors:

Odelia Hochman | odeliamos0@gmail.com

Efrat Cohen | cohenefratoni747@gmail.com

Instructor : Dr. Amos Azaria

Project goals:

The aim of the project is to build a system that will prevent unauthorized people from entering the parking lots and in addition, will save security costs by having the guard supervise several parking lots at the same time.

Who is the system for?

The system is designed for parking lots where management wants to allow access only to authorized persons.

Project scope:

- 2 cameras for face and license plate photography
- Electronic board
- Dataset (images of faces and license plates)
- Algorithms for face recognition and license plate recognition
- Guard app

Summary:

For many employees who come to their employee parking lot, searching for parking has become a difficult task as unauthorized people park there.
To solve this problem, we decided to develop a system of smart gate called "Smart Gate" which will open the barrier automatically only to authorized people by using face recognition and license plate recognition algorithms. This system saves on security costs because the guard can monitor multiple parking lots simultaneously using an app that allows him to track in real-time who enters the parking lot and easily handle cases where the system fails to identify the employee.

Major milestones:

1. Find a Dataset of face images and license plates images.

2. Find algorithms to identify license plates and faces and understand how they work.

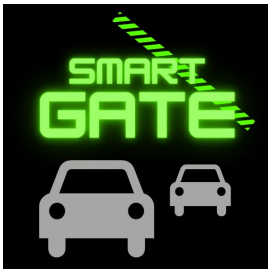
3.Train a model so that it recognizes images of license plates and faces in real-time (by comparing to images in Database).

4. Programming the guard's app.

5. Connect between the recognition model and the guard's app.

6. Connect between the guard's app and the electric gate.

Logo:



Sample screen in the guard's app: