Smart Gate

GitHub link: https://github.com/hemalatharameshgari/batch-A04-smartgate

Batch No: A-04

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Project Guide:

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Abstract

- **Smart Gate Technology** is based on Internet Of Things and Deep Learning. It involves face recognition and sensor kit. Smart gate is used to allow only valid persons.

Literature survey:

- Opencv tutorials point
- Machine learning concepts

https://www.researchgate.net/publication/220566092_Face_Recognition_A_Literature_Survey

https://pythonhosted.org/facereclib/references.html

Existing Systems

- Normal gate:
  - No security
  - Time Tacking

- Automatic gate:
  - Just as sensor without validation

Proposed System:

- Sensor for authorized users.
  - Checks the image with existing dataset
  - If it is exist then it opens the gate otherwise it does not open the gate
- Scope of our project :
  - It allows only authorized persons and one person at a time.
  - It is a supervised learning.

Facial recognition:

A **facial recognition system** is a technology capable of identifying or verifying a person from a digital image as a source. There are multiple methods in which facial recognition systems work, but in general, they work by comparing selected facial features from given image with faces within a database.

Problem Definition:

Face recognition is used to check that a person has permission to enter the organization or not. The output of facial recognition is send to sensor kit as binary value. if it is true then it opens the gate otherwise it won’t open the gate.

Requirements

Hardware Requirements:

RAM : 4GB

Processor : intel core i3

Face recognition sensor

Raspberry pi

Software requirements:

Cmd or Anaconda platform(Jupyter)

opencv

Planning:

Task	Date
Requirements (Abstract review)	20-12-2019
Analysis (Problem Definition , Planning , Literature survey)	25-01-2019
Design and Implementation (coding)	01-03-2020
Testing	15-03-2020
Output of project(Result)	20-03-202
Maintenance and (Deployment)	Never end process
Document submission	06-04-2020

References:

- https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_objdetect/py_face_detection/py_face_detection.html#face_detection
- https://www.superdatascience.com/blogs/opencv-face-detection

Queries

THANK YOU