

Face Detection & Attendance Monitoring Solution for an Event Organiser

Introduction

The client is an event organization company. They organize event like paid dinners, charity lectures and shows where buyers get to meet and listen to prominent guests like political leaders, celebrities etc.

Need

Client challenge was to have a low cost and easy to maintain attendance system to track people attending the events they have organized- especially the free entry events - and analytics around demographics based on the clippings of the events.

This data is later used in getting insights on how successful the event was and the mood of attendees at the event. These insights are useful in measuring the overall response to the events. Client also wanted to recognize if any important/known members of society attended the event as guest.

Solution

We leveraged Azure Cognitive services which is an AI/ML module provided by Azure. This contains various AI models from OCR to Face Detection and NLP.

Using a camera placed at the entrance to the event we detect faces from the camera stream every frame using Azure face API.

These faces are sent to a gender detection model which is a model that is made on top of face API by training obtained face encodings with an SVM that can classify gender. This model also collects data about if there's a stag entry or a group entry to the event. Then software compares the obtained faces with an existing face directory of local and national celebrities or a banned list and if a match is found, sends an alert to the security team/management.

Feeds from other cameras capture faces at different times and pass to our pre-trained mood detector SVM to detect the person's mood at that current point in time. This helps collect metrics around reaction/mood at certain times of the event.

Advantage

- Solution component is fully dynamic and efficient it requires no monitoring, and this gives good data quality data for further analysis.
- Ability to capture up to 100 faces and their demographics in one frame.
- Human efforts have been minimized as much as possible saving the overall cost of operation
- Reduces human intervention and expensive biometric devices or face recognition devices.

Industry

Events

Charity

Our Services

Data Warehouse

Data Orchestration

File Transfer Services

AI/ML

Technology Stack

Azure Data Factory

Azure Cognitive Services

Azure Machine Learning