

CASE STUDY

Face Detection & Attendance Monitoring Solution for an Event Organizer



OVERVIEW

The client operates as an event organization company, specializing in coordinating events such as paid dinners, charity lectures, and shows featuring prominent guests like political leaders and celebrities.

CHALLENGES

The client sought a cost-effective and easy-to-maintain attendance system to track attendees at their organized events, particularly those with free entries. Additionally, they wanted analytics capabilities to gather demographic insights based on event footage. This data was crucial for assessing the event's success and gauging the mood of attendees, providing valuable metrics for measuring overall event response. The client also expressed a need to identify any noteworthy or well-known individuals attending the event as guests.

INDUSTRY

- Events
- Charity

SERVICES

- Data Warehouse
- Data Orchestration
- File Transfer Services
- AI/ML

TECHNOLOGY

- Azure Data Factory
- Azure Cognitive Services
- Azure Machine Learning



SOLUTION

Our solution involved leveraging Azure Cognitive Services, an AI/ML module, which incorporates various AI models ranging from Optical Character Recognition (OCR) to Face Detection and Natural Language Processing (NLP).

To address the attendance tracking challenge, we deployed a camera at the event entrance and utilized the Azure Face API to detect faces in each frame of the camera stream. These detected faces were then processed by a gender detection model, built upon the Face API by training face encodings with a Support Vector Machine (SVM) for gender classification. This model also gathered information about stag entries or group entries to the event. The software compared the obtained faces against an existing directory of local and national celebrities or a banned list, triggering an alert to the security team or management upon a match.

Additional cameras captured faces at different times, feeding the data to a pre-trained mood detector SVM. This detector assessed the mood of individuals at specific points during the event, providing valuable metrics on reactions and moods.

BENEFITS

- The client was now able to capture up to 100 faces and their demographics in one frame.
- Minimized manual efforts for identification.
- Prevented the need for expensive biometric and face recognition devices.

About Contata

Contata Solutions is a trusted leader in technology and digital innovation. Through our work in data engineering, data analytics, machine learning, marketing automation and app development, we deliver solutions that address complex problems in ways that are simple, insightful and impactful.

Our promise and value proposition to our customers is simple: we leverage our deep technical expertise and global presence to bring software products and data-driven decision capabilities to life.

Founded in 2000, Contata is a privately-held company headquartered in Minneapolis that serves clients globally from offices in the United States and India.