**AI PROJECT**

**Title:**

People Counter Using OpenCV

**Description**:

This project implements a smart vision-based system to count the number of people entering and exiting a monitored space by tracking their movement across a vertical line in a video feed. It uses the **MobileNet-SSD** deep learning model to detect people and **OpenCV** for image processing and object localization.

The counter works by:

* Drawing a virtualline in the video frame.
* Tracking each person’s centerposition across consecutive frames.
* Comparing previous and current positions to determine if they cross the line.
* Incrementing either the entry or exit counter based on the direction of movement.

**Technologies Used:**

| **Component** |  | **Technology/Library** |
| --- | --- | --- |
| Programming Language |  | Python |
| Computer Vision |  | OpenCV |
| Object Detection |  | MobileNet-SSD (Caffe Model) |

**Applications:**

* Smart surveillance systems in retail stores, malls, airports
* Automated entry/exit logs in offices and public spaces
* Crowd monitoring systems during public events or emergencies
* Foot traffic analytics for business intelligence
* Queue management and occupancy limit enforcement

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