**Abstract:**

This project deals with the development of an application for automation of video surveillance in ATM machines and detect any type of potential criminal activities that might be arising with the system which would considerably decrease the inefficiency that are existing in the prevalent systems. An advanced Human detection system using Open Computer Vision technique and unsupervised Artificial Intelligence would be utilized which would create phenomenal results in the detection of the activities and their categorization. The proposed system makes efficient utilization of Open CV which has more than 2500 optimized algorithms. These algorithms can be used to detect and recognize faces, identify objects, classify human actions in videos, track camera movements, track moving objects finally ending up with the detection and identification of the necessary action for the prevention of such type of activities. The proposed system includes the specialized mechanisms for Camera Covering, collision of human, Emergency sound detection, long time tracking. The entire mechanism takes place in real time decreasing the time complexity to a great extent making the system an efficient mechanism to prevent such anti-social activities.

**Introduction:**The present world scenario witnesses extensive usage of automated Video surveillance systems which plays a vital role in our day to day lives in order to enhance protection and security for individuals and infrastructure. Tracking and detection of objects is an essential component in various traffic monitoring systems, biometrics and security infrastructures, safety monitoring, various web applications and recognition of objects for mobile devices etc. One major application area of this process is the detection of robbery. In this paper the primary focus will be in the field of detection of suspicious activities or crime in an ATM (Automatic Teller Machine) which is basically a profitable bank service which enables financial transactions in public spaces where the machines are a replication of the bank clerks and tellers. Although several researches are going on in the field of ATM crime detection, however the utilization of the crime detection system is scarcely observed due to lack of efficiency and processing in the existing crime detection systems. Hence the idea of creating such a system was conceived after relative observations of the real life incidents that are happening in and around the globe. The increasing proliferation of the ATM frauds which involves activities like usage of mobile phones, multiple access in the same time, robbery, fights and vandalism is a matter of concern which would be tackled by the proposed system to enable secure financial transaction during anytime of the entire day and night.