

## Can We Prevent Active Shooters Through AI Technology?

*Published on 28 Jan 2019*



**According to the reports of not-for-profit organization Gun Violence Archive, the year 2018 has seen 323 mass shooting incidents as of November 28 in the United States. This number is 346 for the year 2017 and 382 for 2016 (more statistics are available [here](#)), with “mass shooting” defined as cases where four or more people are shot or killed in the same time period and location.**

While definitions of mass shooting vary with organizations in the US, the count of over 300 incidents per year, or about once per day on average, is simply alarming. It raises public safety concerns, ignites debates and protests, which in turn lead to public unrest and potentially more violence, and increases costs for governments from the regional to federal level. Most importantly, the loss of lives demands not only improvement in post-incident handling and investigation, but also new

prevention technologies.

## Gunshot Detection Solutions



AI weapon detection offers a more efficient alternative to prevent active shooting

There are several gunshot detection solutions in the security market, commonly used by law enforcement agencies to detect and locate gun fires. These systems function based on acoustic recordings and analyses and often in combination with signals detected by sensors of the optical flash and shockwave when a gun is fired. However, gunshot detection by nature dictates that the law enforcement can only react to a shooting incident that has occurred. With fast action, law enforcement can prevent the incident from escalating, but lives that are lost cannot be recovered.

With the development of artificial intelligence in object recognition, AI weapon detection offers a more efficient alternative to prevent active shooting: AI can visually detect guns based on their shapes before they are fired. The AI is trained to recognize firearms in different shapes, sizes, colors, and at different angles in videos, so that the AI weapon detector can be deployed with existing cameras systems, analyze the video feeds, and instantly notify security staff when a gun is spotted.

## Gun-Shot Detection Advantages

In addition to advantages for law enforcement and public security agencies, this type of visual-based pre-incident detector has three-fold advantages for the public:

- Save lives by spotting the shooter before the shooting event.
- Minimize the chaos entailing an incident: panic and chaos caused by a shooting incident often adds to injury, as people run, fall, trample on others... With an AI weapon detector, when a gun is spotted, the system sends an alert to security staff, who can quickly control

the situation in an organized manner and apprehend the intending shooter.

┌ Can be added as a SaaS (Security as a Service) component to small business and home surveillance systems, e.g., intrusion detection alerts (home invasion incidents with firearms number over 2500 per year nationwide).

For a complete active shooter detection system, video-based AI detector can operate in conjunction with gunshot detectors for enhanced security. Traditional X-ray based weapon detection or metal detection entrance systems are complicated and expensive; with AI video technology, active shooter detection system can be cost-effective, and after all, what price tag can one put on a life?

*Written by Paul Sun and Mai Truong, IronYun*

## You may also be interested in...



### How To Prepare For Active Shooter Incidents | Infographic

This Active Shooter infographic summarises information about trends among active shooter incidents, and outlines how an organ...



### Non Lethal Threat Suppression Disrupts Active Shooters

After the 2012 Sandy Hook school shooting, Jody Allen Crowe set out to develop a threat suppression tool to address school violence. Five ye...



### Is The Physical Security Industry Doing Enough To Prevent School Shoot...

School shootings continue, as does a search for answers. What solutions are there to prevent school shootings and/or to improve the response...