

U.S. Crime Is Still Higher Than Before the Pandemic, but technology can help citizens to enhance safety and security

Expert of Data Science, Luiz Paulo Oliveira Paula, clarifies how the use of A.I. can be a great tool to identify behaviors that could signify a future violent

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[/EINPresswire.com/](https://EINPresswire.com/) -- Crime in the US

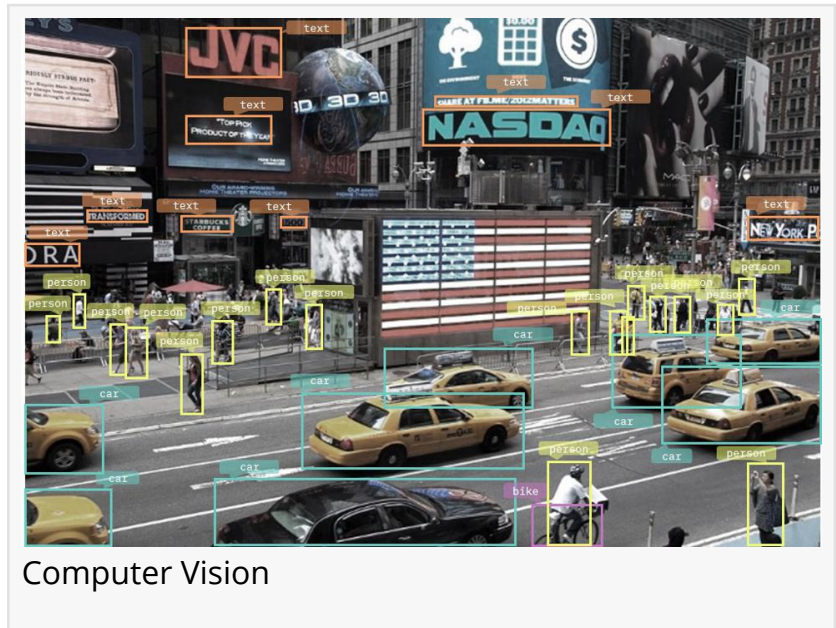
is a sad reality, and its proportions have only increased according to the Council of Criminal Justice in its latest report published in July of this year. The study was conducted in 29 cities and obtained alarming results, "Over the past two years, homicides and gun assaults trended upward while most property crimes receded. In the first half of 2022, crime patterns partially reversed: in particular, homicides and gun assaults declined while property crimes rose.", it says. Adding to that, 464 mass shootings were recorded in 2022 according to Gun Violence Archive, including the massacre at Robb Elementary School in Uvalde Texas, and the shooting at Tops Friendly Supermarket in Buffalo, New York that killed 10 people.

That context made a lot of scientists ask: How can we use technology and powered A.I tools to predict violent behavior or help law enforcement respond quickly to danger?

“These newer technologies are coming to enhance security avoid burglaries and murders, and create a new way to help law enforcement to predict and prevent criminal”

Luiz Paulo Oliveira Paula

According to Professor of Data Science, Luiz Paulo Oliveira Paula, the UK's Centre for the Protection of National Infrastructure (CPNI) has been studying different ways to contain waves of terrorist attacks. “For this, they developed



the Gunshot Detection Systems (GDS) in which, through sensors linked to a CCTV, they can detect gunshot sounds and classify the type of weapon, helping to a quick response from law

enforcement officers. This project has been tested indoors but has great potential for events and concerts in open areas, where it gains a greater level of complexity: the system's ability to isolate other sounds from the potential threat", he explains.

"US scientists including professors from Chicago University using crime data of Chicago have been studying Machine Learning and Deep Learning Models to predict in advance crimes in the area. Another possibility would be using public or private security cameras to recognize and analyze suspicious behavior.", he adds.

Artificial Intelligence and Machine Learning

In summary, artificial intelligence is the ability of a machine to operate complex tasks similar to humans, such as identifying objects. "Machine Learning is the ability of the machine to use data to improve itself to make better decisions, for example, a machine being able to identify different types of cancer through the analysis of several images of different patients. We can say that Machine Learning is the ability of Artificial Intelligence to learn over time through the information consumed by it. Very similar to our learning model", he says.

Today, we can see artificial intelligence being applied everywhere. "Smile or face recognition on cell phone cameras, converting your voice into text on your Smart TV, calculating the best route to your destination or even in your video game", he adds.

How do cameras analyze the odds of risk?

Computer vision is a field of study applied to the recognition of objects and behaviors using Machine Learning. "Allied to modern cameras, it is possible to understand the probability of a behavior being classified as a security risk. Any modern camera can be used for the process. The big difference lies in the artificial intelligence software that will identify the threat by analyzing user behavior," says Luiz.

To teach the machine to recognize events that potentially harm safety, you can use the same logic with children - the examples. "Through videos already cataloged as violent and non-violent, the algorithms learn to classify them and with experienced data scientists, extract the determining factors for this classification, such as body parts; environment; and the violent act itself. After this learning process, the system starts its classification process in real-time and informs the probability of that video is a potential threat", he understands.

Luiz Paulo

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