Public cameras provide valuable insights on pandemic, consumers

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Yung-Hsiang Lu, a professor in Purdue's College of Engineering, is leading a team working on several patented technologies related to public cameras. Credit: Purdue University/John Underwood

Technology similar to massive search engines used to scour the web may

soon be used to provide new insights into consumer behavior and the impacts of the COVID-19 pandemic on economies across the world. The technology also may be a useful tool for reducing misinformation in news media.

Purdue University innovators have created several patented technologies that they combined into a computer system to acquire and analyze real-time visual data from millions of globally distributed network cameras. The innovators define network cameras as those connected to the Internet and continuously capturing data.

"We know there are millions of these cameras around the world and we wanted to create ways to better use them for research and business purposes," said Yung-Hsiang Lu, a professor of electrical and computer engineering in Purdue's College of Engineering. "Our systems allow users to pull real-time information and analyze the data to produce actionable results. A user can see what is happening at this moment in different parts of the world."

The Purdue team's system automatically discovers thousands of network cameras in public spaces. It is possible to create a computer program that saves image data and downloads videos about every 10 minutes, and the data recorded from these cameras can be sent to cloud data centers for processing.

"This technology has such a wide range of applications, from malls using camera data to understand their consumers to news organizations being able to use network cameras to validate facts without risking the lives of journalists being sent to dangerous areas," Lu said. "Our systems also provide important information for the pandemic. They can be used to observe behavior, such as the reactions around the world once vaccines are administered."

Lu said the camera data also provides valuable insights into economies around the world, such as looking at the videos to see the crowd sizes at public spaces and retail locations.

Provided by Purdue University

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