

# New AI-based video system helps seniors stay safe and independent

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An autonomous intelligence system is helping seniors stay safe both at home and in care facilities, thanks to a collaboration between University of Alberta computing scientists and software technology company Spxtrm AI.

The new tool uses a deep-learning computer vision [system](#) and motion-classification algorithms to capture events such as falls in real time, alert caregivers and give health-care professionals the information they need for immediate triage.

The system—developed in part by the Multimedia Research Centre led by Irene Cheng in the Department of Computing Science—transfers real-time video to an autonomous computer vision lockbox. If an event is detected, the system alerts a specified caregiver and provides a redacted video of the event.

"Just-in-time action is needed for falls and other accidents in order to save lives, and only accurate and time-efficient algorithms can deliver real-time solutions," explained Cheng.

She added that videos are captured continuously and at high resolution.

"It is impossible for humans to monitor these systems and detect the relevant information in [real time](#) as effectively as this autonomous system can," she said.

The system also maintains the privacy of seniors while providing caregivers with important triage information, including the moment of impact after the fall.

"Privacy is a major concern for most seniors," said Cheng. "Our algorithms are able to extract the necessary [information](#) on the fall for analysis without disclosing their physical appearance to human operators and caregivers."

Provided by University of Alberta

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