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Activity Monitoring Using Smart Visual Sensor

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Abstract: In this talk, we introduce the Sentinare smart activity sensor we have developed for senior care and telehealth. The sensor has a built-in AI chip and runs various deep learning algorithms. It detects and analyzes people's activities, collects statistics, and sends alerts when emergencies such as falls are detected. To protect privacy, only stick figures are transmitted instead of videos. The stick figures have much lower cost than videos, and can be recorded in the cloud for long-term analytics. The stick figure data also provides valuable information about people's behaviors. For example, it can help doctors to design and adjust treatment plans, and identify certain diseases earlier. In the wake of the COVID-19 pandemic, the sensor provides much-needed protection for seniors and patients, and peace of mind for caregivers.



Dr. Jie Liang received the BE and ME degrees from Xi'an Jiaotong University, China, the ME degree from National University of Singapore, and the PhD degree from the Johns Hopkins University. From 2003 to 2004, he worked at Microsoft Windows Media Video Codec Group. Since 2004, he has been with the School of Engineering Science, Simon Fraser University, Canada, where he is currently a Professor. Jie Liang's research interests include Image and Video Processing, Computer Vision, and Deep Learning. He had served as an Associate Editor for IEEE Transactions on Image Processing, IEEE Transactions on Circuits and Systems for Video Technology, and IEEE Signal Processing Letters. He is also a co-founder and the President of AltumView Systems Inc., a startup company that develops AI products for senior care and telehealth.