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Title: Health Surveillance

Abstract: Surveillance evokes mixed feelings. However, the primary aim of intelligent surveillance systems is to detect and monitor real-time evolving situations using all observed data with an implicit goal to help in managing them.   Increasingly surveillance is being used in managing health, particularly personal health. Technologies are being developed for diagnosing health problems, for recording what people are eating, to emotional aspects. The central element of personalization is the model of a person from a healthy perspective. Deep personal models require personal chronicle of events not only from cyberspace as used by many current search systems and social networks, but also from physical, environmental, and biological aspects. Episodic models are very shallow for personalization. Multimodal processing, including computer vision, plays a key role in creating detailed personal chronicles, aka Personicles, for such emerging applications. We are building such Personicles for health applications using smart phones, wearable devices, different biological sensors, cameras, and social media. These Personicles and other relevant event streams may then be used to build personal models using event mining and related AI approaches. In this presentation, we will discuss and demonstrate an approach to build Personicles using diverse data streams and show how this could result in deeper personal models for applications like personal health navigators. We will point out several small projects that could be done to address some aspects of such a system, and could be easily done in 1-2 quarters.