

With the ever increasing aging population and others in need of close monitoring, there is a profound demand for an efficient and economical counter-emergency system. This paper proposes a smart connected real-time voice and video communication and tele-controlled co-robot system to provide a highly secured counter-emergency solution for people living alone, especially for elder adults. A comprehensive personal emergency assistant tele-robotics guard system is provided pervasive emergency intelligence for independent living. It contains three modules: robot awareness module, wearable emergency analysis module, and remote control module. The robot in robot awareness module is able to find out the yell of "help". The wearable emergency analysis module can recognize the person's activities and predict the health condition. The remote control module can control the robot remotely by using mobile devices. This smart connected tele-robotics guard system will dynamically detect, alarm, tele-operate for emergency situations. The prototypes have designed and developed with vocal help request, and wearable sensors to actively protect a person in emergency situations even when he/she loses consciousness, mobility, or clear conversation capability. The latest prototype was deployed in a senior home facility for extensive testing, eliciting real-life data to conduct further improvements.