

Hand Gesture Speed Recognition and Classification using IR-UWB Radar Sensor

ABSTRACT

Human-computer interaction (HCI) is a term that refers to a set of methods and techniques that enable humans to connect with machines and computers. Based on Hand Gesture Recognition (HGR), HCI enables a naturally occurring contactless interface, bringing humans closer to a more natural way of communication. Numerous studies have identified the potential of Impulse Radio-Ultra Wide Band (IR-UWB) radar sensor-based HGR as a future enabler for a diverse variety of applications. This work presents the development of a method to utilise an IR-UWB radar sensor to recognise and classify hand gesture speeds. The findings of the performance tests reveal a very high degree of confidence and accuracy in recognising and classifying hand gestures speeds.