

Master 2017

Nagarjun Manjunath

Simulation and Validation of Capacitive Sensing on Flexible and Curved Surfaces Applied on Sleeping Breathing Rate Detection.

ABSTRACT - Masterthesis

In recent years the capacitive sensing is the main technology, act as input in smart devices. There will be limitations for the flat surface, and nowadays people wants to use flexible surface input devices such as foldable mobiles, flexible input devices, and curved input devices. For these input devices, the surface wants to be flexible and curved; limited research has been carried out till now on curved and flexible surface capacitive sensing technology.

The main objective of this master thesis is to investigate the capacitive sensing for different materials, different flexibility, and curvature. Simulation and validation of capacitive sensing on flexible and curved surfaces for various materials are carried out. Moreover, designing an own application (Breathing rate detection while sleeping) based on the characteristics obtained by capacitive sensing for various material on the flexible and curved surface.