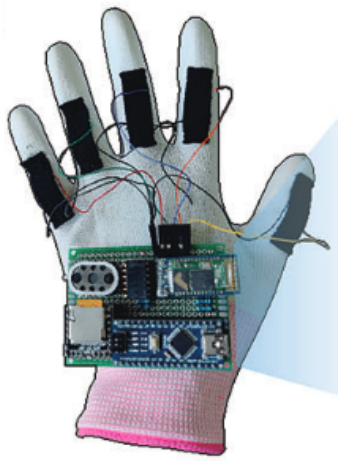
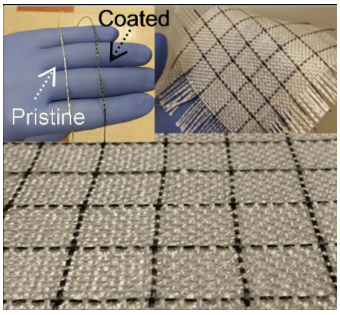
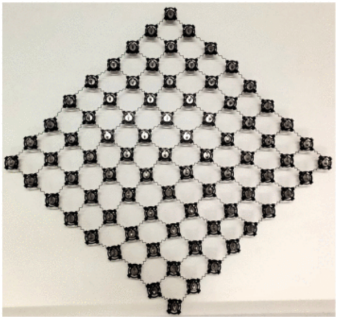


(a) A glove equipped with five strain sensors for sign language translation, by Wu et al[31]



(b) CNT based woven strain sensor to sense strain in a 2D grid, by Luo et al[15]



(c) A smart fabric consisting of small robots, connected by springs, by Obilikpa et al[19]

it very easy to weave multiple fibers vertically and horizontally into a fabric with easily adaptable sensing precision by adjusting the relation of sensing and regular fibers. The end result is a fabric that can sense strain in a 2D grid. Luo et al. focus on the sensor array aspect in this work, but do not present a scalable approach to reading these sensors in a way that is as scalable as the fibers themselves are.

Obilikpa et al.[19] proposed a robotic fabric consisting of multiple battery-powered robots, connected by rigid or flexible links. They estimate their position in relation to their neighbors by broadcasting infrared (IR) messages. The robots can move individually, but their movement is inaccurate. Utilizing Motion Control Algorithms (MCA)[20], the movement error for each robot can be overcome in the fabric, and the fabric can move coherently. This concept lacks the information about the articulation of the complete fabric in any single location. This is mostly overcome by the chosen MCAs. The communication over IR is dependent on the surface the robots are walking on and can be manipulated by a change in the reflectiveness of the surface the fabric is moving over.