

Table S1. Key differences between the two works compared in Figure 8.

	This Work	Thuruthel et al. [30]
Sensor material	Styrene-based tri-block co-polymer & carbon black	Conductive thermoplastic elastomer (CTPE)
Substrate material	Styrene-based tri-block co-polymer	EcoFlex 00-20
Fabrication method	3D printing	Manual positioning & casting
Thickness (mm)	0.3 → 1.2	10
Grid size	4 × 4	4 × 4
Probed area (mm)	27 × 27	33.75 × 33.75
Probe diameter (mm)	5	7.5
Depth probed (mm)	2	4
Number of samples	5000	7400
Hidden layer size	100	50

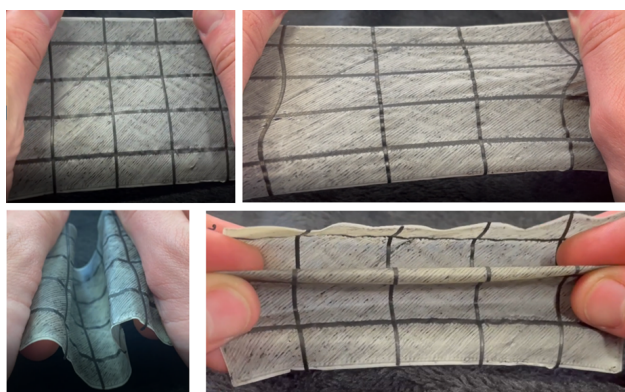


Figure S1. Flexibility and stretchability of a 0.3mm printed sensor grid.

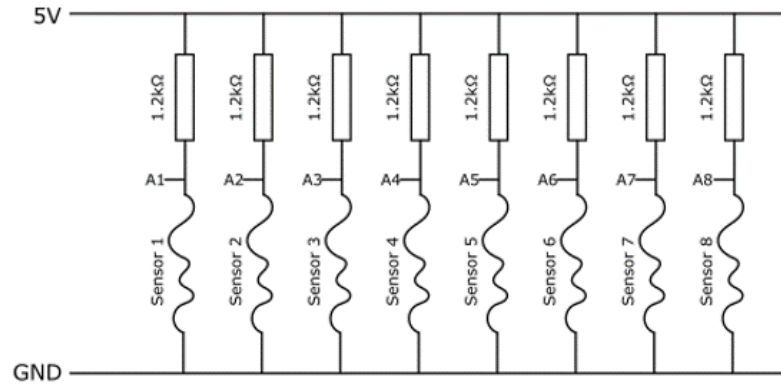


Figure S2. A schematic of the resistive sensing setup, which consists of 8 potential dividers in parallel. The GND & 5V outputs and the analog inputs are all connected to a microcontroller. In this schematic the sensors are assumed separate, though some channels in the optimized print are in contact. This introduces additional resistances between the 8 branches, the effect of which can quickly be learned by the neural networks.