

Printed Tactile Sensors Integrated in Robots

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Recent developments in artificial intelligence and service robots have increased the importance of robot development with tactile feedback. Beyond the traditional silicon-based tactile sensors, flexible and stretchable tactile sensors that are able to maintain their function even when deformed, such as human skin, are receiving more attention. In this presentation, I talk about the production of various sensing materials for stretchable tactile sensors. Special emphasis is placed on printed sensors, where bonding to circuits, sensors and flexible substrates are all fabricated in print. I present a stretchable tactile sensor that can be easily attached to and detached from a robot. I also talk about touch-actuated light-emitting sensors for soft robots that simultaneously implement a pressure sensor and luminescence characteristics.

