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Korea develops electronic skin that can feel in real time

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It is paramount for electric skin to be capable of reacting to the external environment in real time



A research team at Pohang University of Science and Technology in South Korea, in collaboration with the Department of Biomedical Engineering at Ulsan National Institute of Science and Technology (UNIST) has developed an electronic skin that can sense tactility just as humans do.

The skin's sensory receptors generate a spike signal spectrum in the form of electric potential in response to an external stimulus and recognizes it by analyzing the signal pattern in the brain.

The researchers took a hint from this signal generation and recognition mechanism of the skin's sensory system to develop an artificial sensory receptor that generates spike signals on its own, and created an electronic skin that can send all signals simultaneously to be analyzed in real time.

Applying this technology to an actual robot, the researchers confirmed that the artificial skin reacts to the external stimuli as humans do.

"If a new AI model is developed using this spike information encoding method, robot tactile intelligence can be further developed and effectively applied to next-generation semiconductor technologies such as neuromorphic chips", said the researchers.