
Neuromorphic optical tactile sensing - bridging artificial and biological touch

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Abstract

My long-term research aim is to build upper-limb prosthetics with tactile sensing that seamlessly integrates with the human body. I believe neuromorphic tactile sensing technologies will help to achieve this goal. Our research group builds neuromorphic optical tactile sensors and develops spike-based algorithms to solve tactile perception problems such as texture identification, slip detection or contour following. I will present in this talk/poster our work in hardware development to miniaturise optical tactile sensors, our efforts in developing spiking neural network algorithms and why we believe these are key to achieving fast biomimetic tactile sensing, as well as our intentions for future shared autonomy control protocols for upper-limb prosthetics.

Keywords: Neuromorphic touch, tactile sensors

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