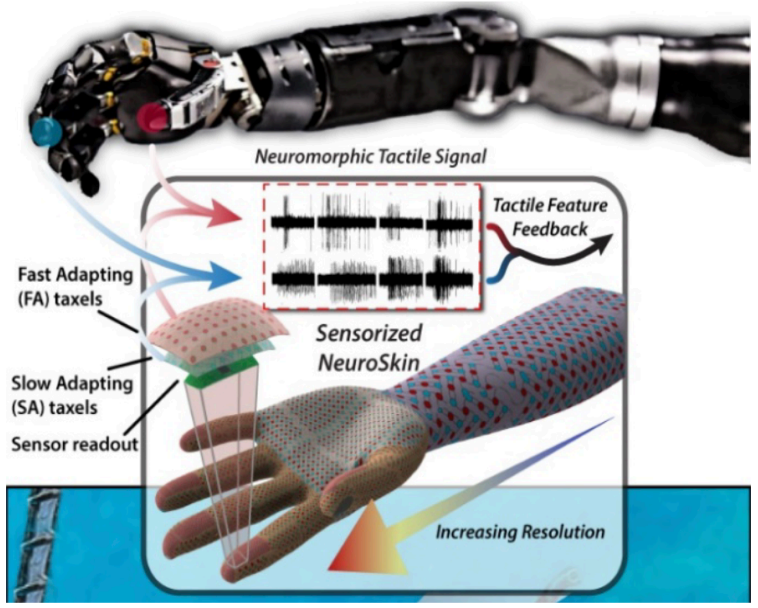
Scalable, Customizable Sensory Solutions for Dexterous Robotic Hands

PI: Nitish Thakor, Professor, Biomedical Engineering, Johns Hopkins University
Graduate Students: Mark Iskarous, Sriramana Sankar

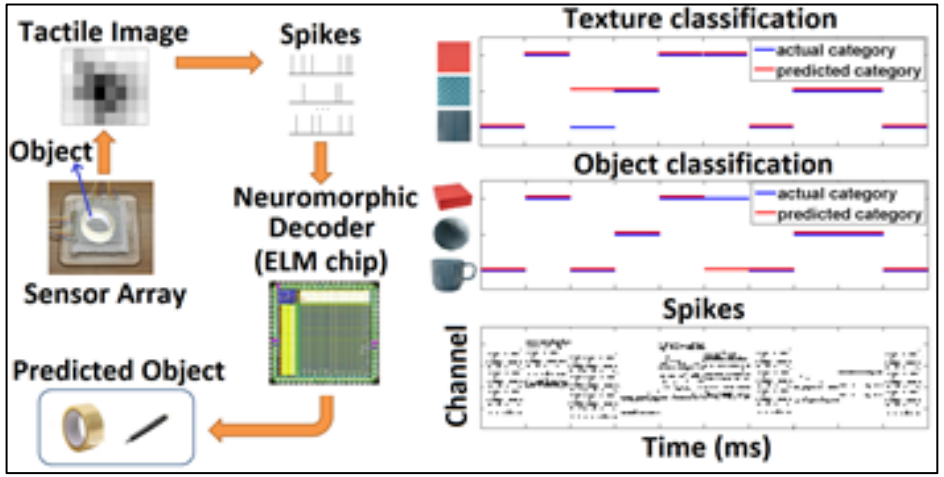
Challenge

* Provide **tactile sensing,** texture and palpation capability to **upper limb prosthesis** and **dexterous robotic hands**



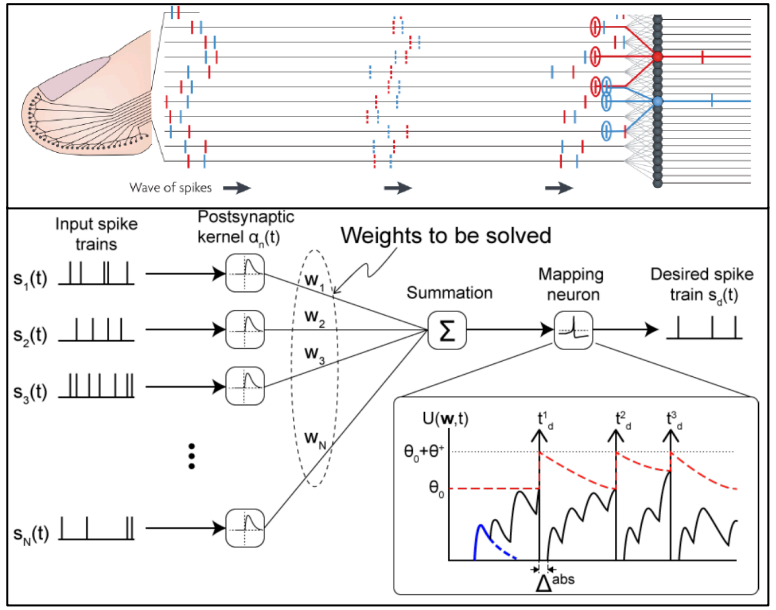
Solution

- Design of **High-density(HD) taxel** array
- Model **mechano-receptors** and develop algorithms for neural encoding
- **Tactile pattern recognition** using Learning



Scientific Impact

- **Neuromorphic Tactile sensing** and classification, dexterous prosthesis and **robotic palpation applications**



Broader Impact

- Paradigm shift in sensorized upper limb prostheses; Restoration of the amputee's sensability
- Education - Build your prosthesis; Training - experience for High Schoolers