Frontiers of Neuroengineering for Restoring Human Sensory and Motor Functions

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Frontiers of Neural Engineering:
Neural Interfaces

- Focused **Ultrasound** Transducer
- **Optical** Neural Interface
- Microelectrode Array
Frontiers of Neural Engineering: Harnessing the Power of Data Science and Computing

Understanding Neural Networks and Brain Function (*Neuroscience*)

Encoding/Decoding Algorithms (*Neuroengineering*)

‘Big’ Neural Data

Machine Learning
Frontiers of Neural Engineering: Reverse Engineering the Nervous System

- Developing Artificial Intelligence
- Augmenting Humans
- Facebook Brain Typing and Skin Hearing
- Elon Musk’s Neuralink
Frontiers of Neural Engineering:
Restoring Human Sensory and Motor Functions


Si, Zhou, and Hong, *PNAS*, 2017

Wang et al., *Nature*, 2018

Argus II, Second Sight Medical Products
Speakers

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Hubert Lim, Ph.D.
University of Minnesota

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