

Machine Learning Algorithms for Neural Decoding
Chethan Pandarinath, Georgia Institute of Technology

Brain-machine interfaces (BMIs) provide a pathway to restore function for people who are paralyzed, such as those with spinal cord injury or amyotrophic lateral sclerosis. Current assistive devices are inherently limited, as they rely on (and encumber) residual motor function as a command interface. BMIs can provide more powerful assistive options by directly monitoring brain activity and using it to decipher movement intention in real-time. However, the staggering complexity of the monitored brain signals is a key barrier to developing BMIs with levels of performance and robustness that warrant widespread clinical adoption. In this talk, I will demonstrate avenues to combine new developments from the field of artificial intelligence with recent advances in our understanding of brain function, with the goal of improving quality of life for people with severe movement disabilities.