



Brain Computer Interfaces

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The field of brain machine interfaces (BMIs) opens up a new direct communication channel between brains and computers to help patients with brain disorders as well as new ways of interacting with computers. In the future use of Brain Machine Interfaces (BMIs) it will be important to bring to the subject the feeling of touch when the robotic device grabs an object in the external world under the brain control of the subject. We are now developing the modelling and signal processing infrastructure to implement a somatosensory BMI by stimulating the Thalamus and producing in the primary sensorimotor cortex a response that mimics the normal stimulation felt by the subject. This talk will survey the adaptive inverse control scheme and the spike kernel models that have been developed in this exciting new field.