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Mercredi 22 Juin 2005
Conférence Analyse Bayésienne

15h00 – 15h45

Bayesian Integration in Sensorimotor integration

Our sensors do not provide perfect information about all the properties of the world. Moreover, our muscles also generate noisy outputs and many tasks we perform vary in an unpredictable way. Uncertainty of the inputs and output thus places sensorimotor control in a probabilistic framework. It is shown that the CNS reduces the uncertainty in estimates about the state of the world by using a Bayesian combination of prior knowledge with sensory feedback. The brain however also needs to consider costs that are associated with movements. We thus measure the cost or utility functions that are used by the CNS for sensorimotor tasks. These experiments put motor control into a more computational framework.

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