

Hierarchical Learning Machines and Neuroscience of Visual Cortex

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Learning is the gateway to understanding intelligence and to reproducing it in machines. A classical example of learning algorithms is provided by regularization in Reproducing Kernel Hilbert Spaces. The corresponding architecture however is different from the deep hierarchies found in the brain. I will sketch a new attempt (with S. Smale) to develop a mathematics for hierarchical kernel machines centered around the notion of a recursively defined derived kernel and directly suggested by the neuroscience of the visual cortex.

Relevant papers can be downloaded from
<http://cbcl.mit.edu/publications/index-pubs.html>