

1035-94-1037

Stephen Smale* (smale@math.berkeley.edu), Mathematics Department, University of California, Berkeley, CA 94720. *Learning from examples; What is "learning theory"?*

We will review some developments in the rather new area of science referred to as learning theory. It is emphasized that the theory of inductive learning is not inductive, but in fact mainly deductive. The mathematics, represented by a synthesis of probability and functional analysis, contrasts with the view that learning is essentially statistical in nature. Then an example from a model of human vision will illustrate some ideas of the abstract theory. (Received September 18, 2007)