

# **Models of Visual Recognition in the Ventral Stream**

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I will describe a class of quantitative models of the ventral stream for object recognition, which have been developed during the last two decades from the anatomical and physiological data and which are quite successful in explaining several physiological data across different visual areas. Surprisingly, such models also mimic the level of human performance in difficult rapid image categorization tasks in which human vision is forced to operate in a feedforward mode. I will also describe recent read-out data from IT for the same complex natural images used in the psychophysics.

I will then focus on the key limitations of such hierarchical feedforward models for object recognition, discuss why they are incomplete models of vision and suggest possible alternatives focusing on the possible computational roles of cortical backprojections.

Relevant papers can be downloaded from: <http://cbcl.mit.edu/>