

Bayesian models and simulations in cognitive science

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Abstract

Bayesian models can be related to cognitive processes in a variety of ways that can be usefully understood in terms of Marr's distinction among three levels of explanation: computational, algorithmic and implementation.

In this note, we discuss how an integrated probabilistic account of the different levels of explanation in cognitive science is resulting, at least for the current research practice, in a sort of unpredicted epistemological shift with respect to Marr's original proposal.

Keywords: Bayesian models, neuroscience models, cognitive science, computer vision

[Specific Sciences: Biology: Neuroscience](#)

[Specific Sciences: Computer Science: Artificial Intelligence](#)

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[Specific Sciences: Cognitive Science](#)

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Deposited By: [Boccignone, Giuseppe](#)

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