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Directed Convergence in Stable Percept Acquisition

Bruce M. Bennett, Rachel Cohen

We view a perceptual capacity as a non-deductive inference, represented as a function from a set of premises to a set of conclusions. We define stable percepts as convergent sequences of instantaneous percepts. Assuming the sets of premises and conclusions are metric spaces, we introduce a strategy for acquiring stable percepts, called Directed Convergence. We consider probabilistic inferences, where the premise and conclusion sets are spaces of probability measures, and in this context we study Bayesian probabilistic/recursive inference. In this type of Bayesian inference the premises are probability measures, and the prior as well as the posterior are updated nontrivially at each iteration. This type of Bayesian inference is distinguished from classical Bayesian statistical inference where the prior remains fixed, and the posterior evolves by conditioning on successively more punctual premises. We indicate how the Directed Convergence procedure may be implemented in the context of Bayesian probabilistic/recursive inference. We discuss how the L(metric can be used to given numerical control of this type of Bayesian Directed Convergence.