

Title: Iterative Latent Strategy Inference During Learning with Automated Mice Training

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Abstract: Neuroscience often requires the training of groups of animals on tasks with thousands of trials, calling for an automated method of training. Also, during the course of training, an animal may change its latent strategy abruptly, and capturing these changes requires real-time inference of the decision-making strategy. We developed an integrated platform for automated animal training and an iterative inference model for strategy inference. The decision model can infer the momentary decision-making strategy and predict the animal's choice with an accuracy of 80%, even when the animal performs poorly.