

Identifiability of the Bayesian Knowledge Tracing Model

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ABSTRACT

The three "unidentified" model specifications proposed by Beck and Chang (2007) are identified by the Bayesian Knowledge Tracing model with a non-informative Dirichlet prior distribution and an observed sequence that is longer than three periods. Although these specifications have the same observed learning curve, they generate different likelihood given the same data. The paper further shows that the observed learning curve is not the sufficient statistics of the data generating process stipulated by the Bayesian Knowledge Tracing model. Therefore, it cannot be used in parameter inference of the Bayesian Knowledge Tracing model.