LDS with Laplace variational EM

**lds.py**

def fit()

* Start with making variational posterior
* \_fit\_laplace\_em
  + Update variational posterior \_fit\_laplace\_em\_continuous\_state\_update
    - Optimize expected log joint (using L-BFGS and Laplace approximation)
    - The expected log joint is a measure of the fit of the model to a dataset, and it is defined as the sum of the log probability of the data given the model and the log probability of the model parameters (ChatAI)
  + And update parameters \_fit\_laplace\_em\_params\_update
    - M\_steps are called here!
  + Check line 759!!!!

M\_steps are called:

* Should call m step for hierarchicalAR and Bern
* HierarchicalAR: m\_step initializes a for loop to activate the m\_step for a model per subject
  + See m\_step AR model
* Then \_m\_step\_global
  + Just calculates average parameters over subjects and uses these values as parameters for the global model!
* Then \_update\_hierarchical\_prior
  + Use params global model as prior for the per subject model

Check init for hierarchicalBernoulliemissions