Implementation

1. Theano supports parallel computing while Tensorflow may not?
2. Theano cannot pickle theano function?
3. Keras on the top of Theano and TensorFlow need more study
4. More study on training is needed
5. Precompile, at least model and tensor variables need to be done. Streaming like serialization need to be implemented.

TIC (memory consumption)

1. Surrogate some of parameters of hidden nodes with AIC and last layer with normal TIC. Since last layer is usually small and memory consumption is small.
2. Sample submatrices from parameter matrices (or sample parameters from the parameters set), and reduce the memory consumption to a tolerated level.

Hidden nodes

1. Classical MLP can achieve CNN performance, with proper fine tuning and typically large neural net architecture which is hard to train. Thus, it partially justifies our assumption that with proper model selection we can achieve optimal results even with classical MLP.
2. And another thought is that CNN is in fact a special technique of MLP, pretraining, share weight, etc. Like ResNet can be expanded to normal parallel MLP.

Sequential Algorithm

1. Fixed-shared algorithm need to be polished. Chain-like -> graph-based. Expand and prune is needed. (related to Hidden nodes 2.)
2. Other available algorithm?