

Figure 1: Full biofam model minus the cluster nodes

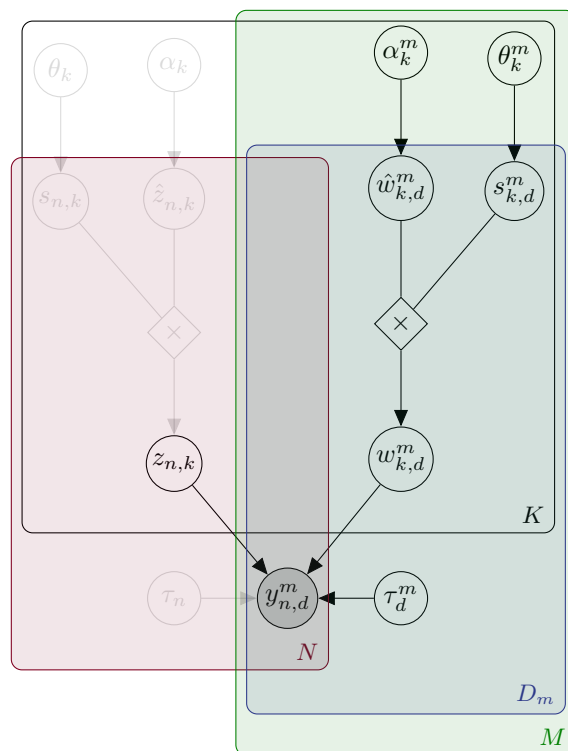


Figure 2: MOFA

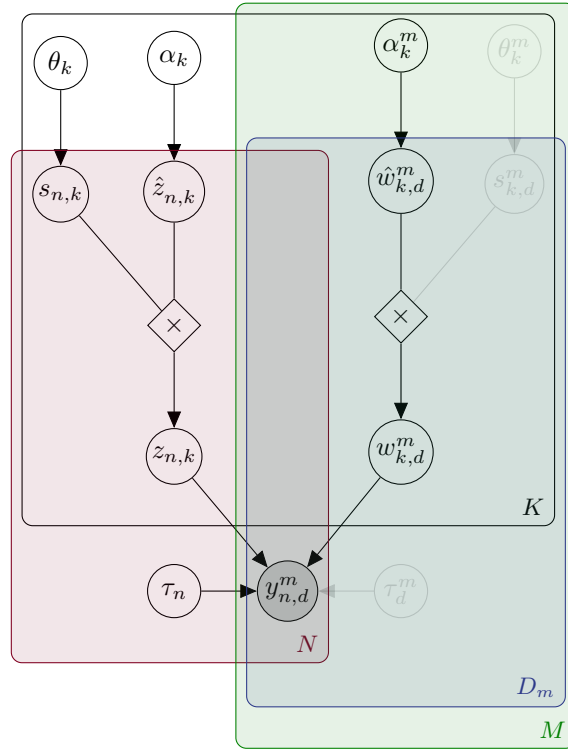


Figure 3: transposed mofa for the combined analysis of multiple batches / tissues / cell types ... We keep the group wise ARD prior to help distinguish shared factors to factors which are unique to specific tissues

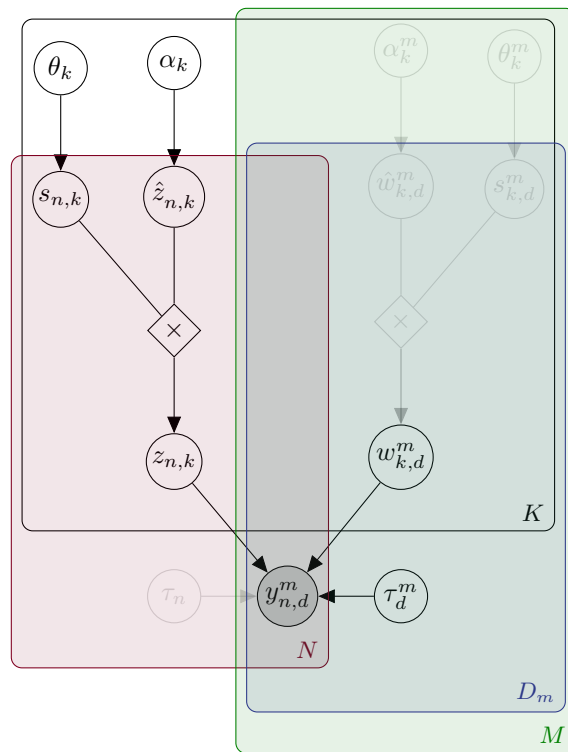


Figure 4: Is this group ICA ?

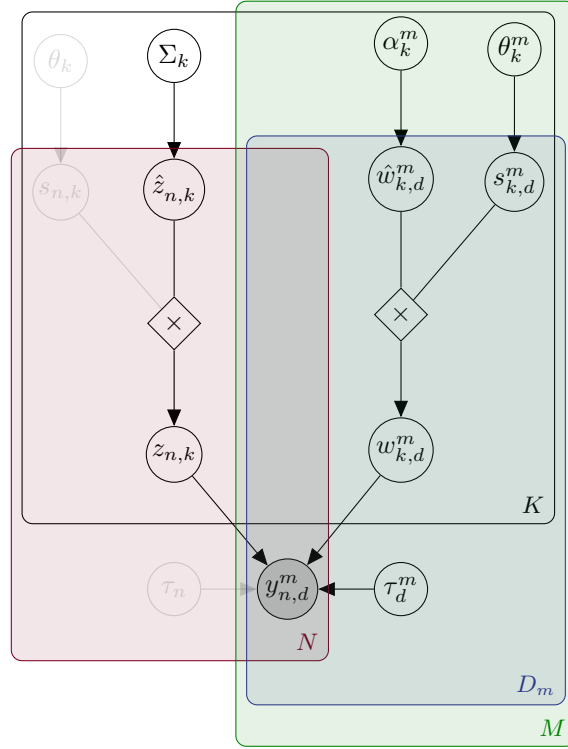


Figure 5: SpatialFA. Here we use a group factor analysis model and add a spatial covariance prior  $\Sigma_k(l_k)$  to the factors.  $\Sigma_k = \exp(1/2l_k^2)$ . The hyperparameters  $l_k, \forall k$  are optimised with variational EM.

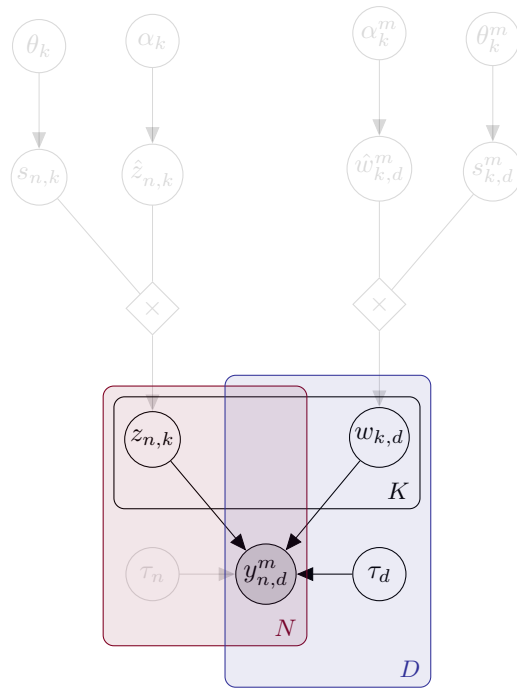


Figure 6: Simple factor analysis model