1 Dependencies in a Directed Graphical Model

1.1 In the graphical model of Figure 1, is $W_{d,n} \perp W_{d,n+1} \mid \theta_d, \beta_{1:K}$?

Yes.

1.2 In the graphical model of Figure 1, is $\theta_d \perp \theta_{d+1} \mid Z_{d,1:N}$?

No.

1.3 In the graphical model of Figure 1, is $\theta_d \perp \theta_{d+1} \mid \alpha, Z_{1:D,1:N}$?

Yes.

1.4 In the graphical model of Figure 2, is $W_{d,n} \perp W_{d,n+1} \mid \Lambda_d, \beta_{1:K}$?

No.

1.5 In the graphical model of Figure 2, is $\theta_d \perp \theta_{d+1} \mid Z_{d,1:N}, Z_{d+1,1:N}$?

No.

1.6 In the graphical model of Figure 2, is $\Lambda_d \perp \Lambda_{d+1} \mid \Phi, Z_{1:D,1:n}$?

No.