

$$\frac{\partial R}{\partial w_{jk}} = \frac{1}{N} \sum_n \left[ \frac{\partial L_n}{\partial a_{k,n}} \right] \left[ \frac{\partial a_{k,n}}{\partial w_{jk}} \right] = \frac{1}{N} \sum_n \left[ \sum_l \delta_{l,n} w_{kl} g'(a_{k,n}) \right] z_{j,n} = \frac{1}{N} \sum_n \delta_{k,n} z_{j,n}$$