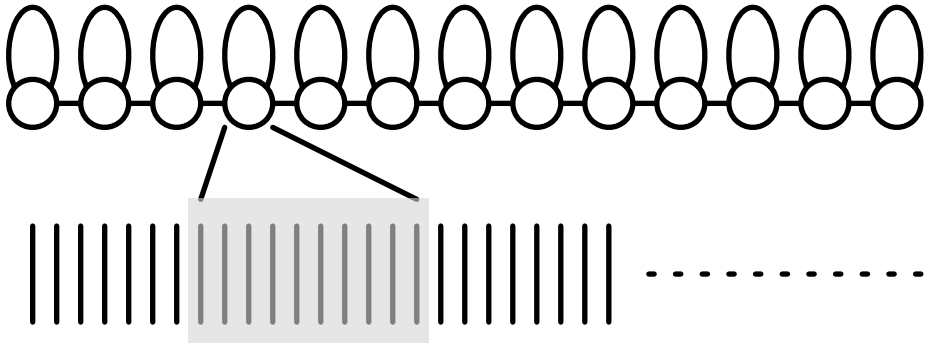
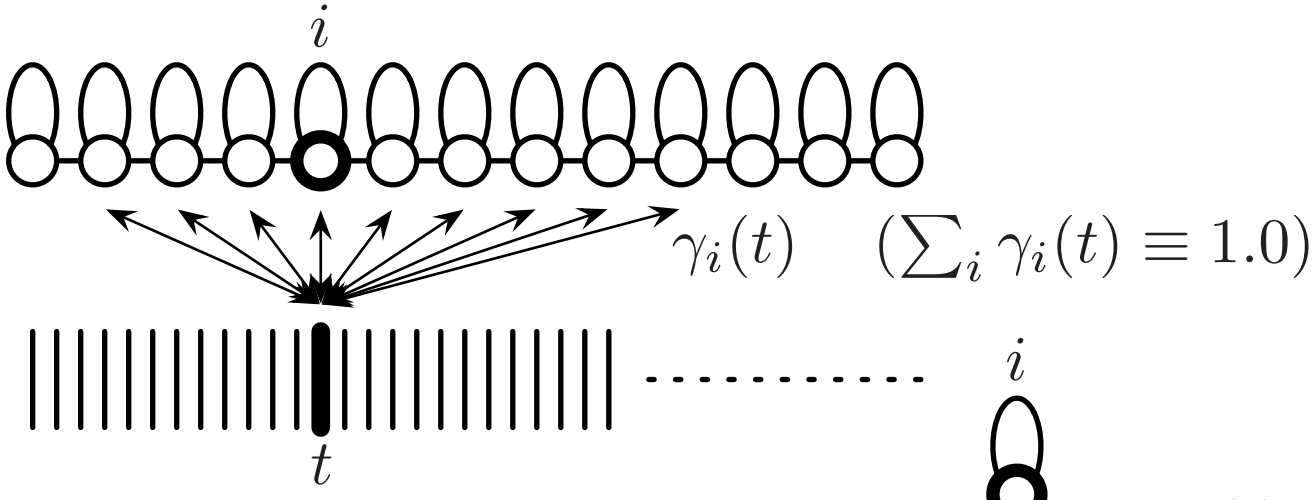
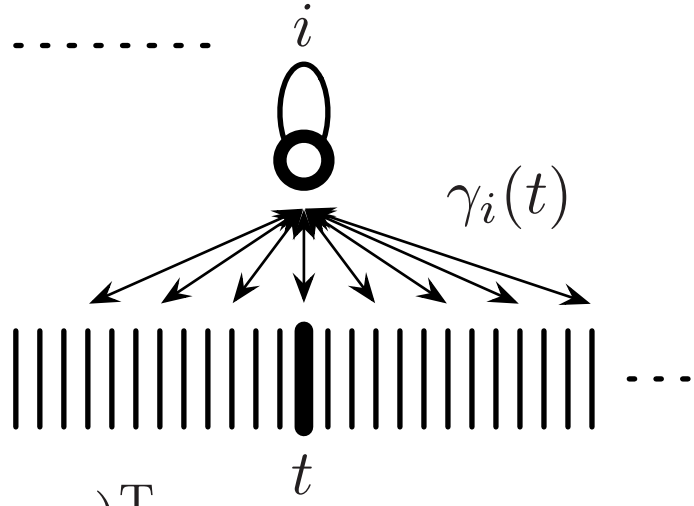


$$\mu = \frac{1}{T}\sum_t o_t = \frac{\sum_t \frac{1}{T} o_t}{\sum_t \frac{1}{T}}$$

$$\Sigma = \frac{1}{T}\sum_t (o_t - \mu)(o_t - \mu)^{\mathrm{T}}$$





$$\hat{\mu}_i = \frac{\sum_t \gamma_i(t) o_t}{\sum_t \gamma_i(t)}$$

$$\hat{\Sigma}_i = \frac{\sum_t \gamma_i(t)(o_t - \mu)(o_t - \mu)^{\mathrm{T}}}{\sum_t \gamma_i(t)}$$

$$P(O|\hat{M}) \geq P(O|M)$$