

BAYES RULE

Eliminate this
everywhere

$$p(x_t | z_t, \cancel{z_{1:t-1}, u_{1:t}, m}) = \frac{p(z_t | x_t, \cancel{z_{1:t-1}, u_{1:t}, m}) \times p(x_t | \cancel{z_{1:t-1}, u_{1:t}, m})}{p(z_t | \cancel{z_{1:t-1}, u_{1:t}, m})}$$

REMEMBER

$$p(a|b) = \frac{p(b|a) \times p(a)}{p(b)}$$

LIKELIHOOD (points to $p(b|a)$)
PRIOR (points to $p(a)$)
POSTERIOR (points to $p(a|b)$)
NORMALIZING CONSTANT (points to $p(b)$)

BAYES RULE

Likelihood
~OBSERVATION model

Prior
~MOTION model

$$p(x_t | z_t, z_{1:t-1}, u_{1:t}, m) = \frac{p(z_t | x_t, z_{1:t-1}, u_{1:t}, m) \times p(x_t | z_{1:t-1}, u_{1:t}, m)}{p(z_t | z_{1:t-1}, u_{1:t}, m)}$$

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