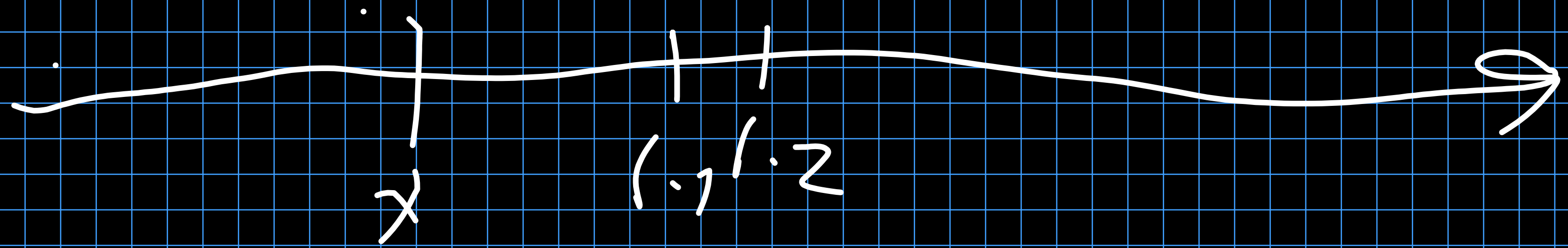
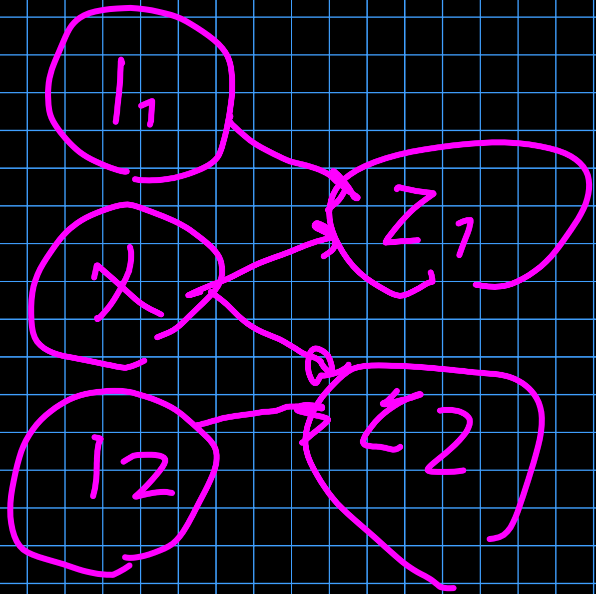


measure $z_1 = 1.1 - x + w_1$

$z_2 = 1.2 - x + w_2$



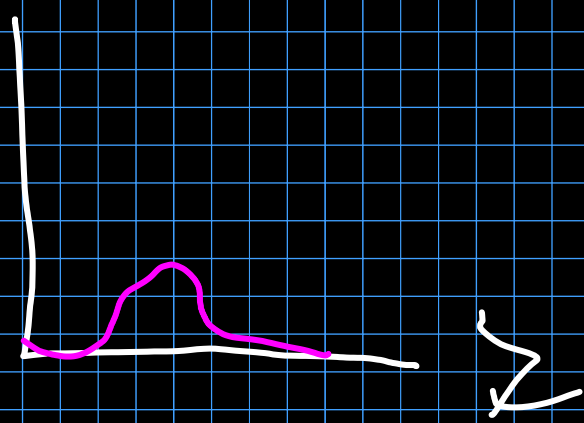
Bayes
Net

$$p(z_1 | x_1, l_1, l_2) =$$

$$f\Big(z_1 - \underbrace{(l_1 - x)}_{\text{predicted measurement}}\Big)$$

actual

$$p(z | x, l)$$



Z_1, Z_2 not Independent

But $P(Z_1, Z_2 | X) = P(Z_1 | X) P(Z_2 | X)$

Conditionally Independent

X

sense_open	open	!open
z	0.6	0.3
!	0.4	0.7

$$P(open|z) = \frac{P(z|open)\,P(open)}{P(z)}$$

$$P(z) \rightarrow \sum_{open} P(z, open)$$

$$= \sum_{open} P(z \mid open) P(open)$$

$$= \frac{0.6 * 0.5}{0.6 * 0.5 + 0.3 \times 0.5} = \frac{2}{3}$$

Drop evidence
term for η

$$P(x|u) = \int_{x'} p(x, x'|u)\, dx'$$

$$= \int_{x'} p(x|x', u) \cdot p(x' \cancel{|u})\, dx'$$