Learned distribution of possible workpiece motions

$P(H_i | y_t)$

$y_{t+1 \text{ (true observation)}}$

Predictor

Hypothesis H_1

$P(y_{t+1} | H_1)$

Bayes rule

$P(H_1 | x_t, x_{t+1}, y_t, y_{t+1})$

Predictor

Hypothesis H_2

$P(y_{t+1} | H_2)$

Bayes rule

$P(H_2 | x_t, x_{t+1}, y_t, y_{t+1})$

y_t

x_t

x_{t+1}

Predictor

Hypothesis H

$P(y_{t+1} | H_3)$

Bayes rule

$P(H_3 | x_t, x_{t+1}, y_t, y_{t+1})$

Posterior Module weights

Given:

yt   workpiece pose before push
xt   finger before
xt+1   finger after

Predict:

yt+1   workpiece after

Bayes law:
$P(H1 | xt, xt+1, yt, yt+1) \propto P(yt+1 | H1, xt, xt+1, yt,) P(H1 | y_t)$

Relative magnitudes of P(Hn) give module weights
influence confidence in predictor and also amount of relearning of each module.