Lecture october 9

NN : affine problem

$y = X \cdot b$

CNN : convolution operation.

$x(t)$ - single output from tracking

time

position

noisy.

less noisy output. Introduce a weight function $w(a)$

new function is a smoothed average :

$$s(t) = \int x(a)\, w(t-a)\, da$$

This operation is called convolution

$$s(t) = (x * w)(t)$$

[expectation value

$$E[X] = \int x\, p(x)\, dx \;]$$

Discrete time version :

$$s(t) = (x * w)(t) = \sum_{a}$$

$$\sum_{a=-\infty}^{\infty} x(a)\,w(t-a)$$