Stat 550 Virtual Whiteboard
Chapters 6–7 KDE & COD

David W Scott

Rice University

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See 1996 Marathon Data

$$\int \left[\hat{f}_k(x) - g(x)\right]^2$$

$$- 2 E \hat{f}(X)$$

$$- \frac{2}{n} \sum_i \hat{f}_{-i}(x_i)$$

$$\hat{f}(x) = \frac{1}{n} \sum_{i=1}^{n} K_h(x - x_i)$$

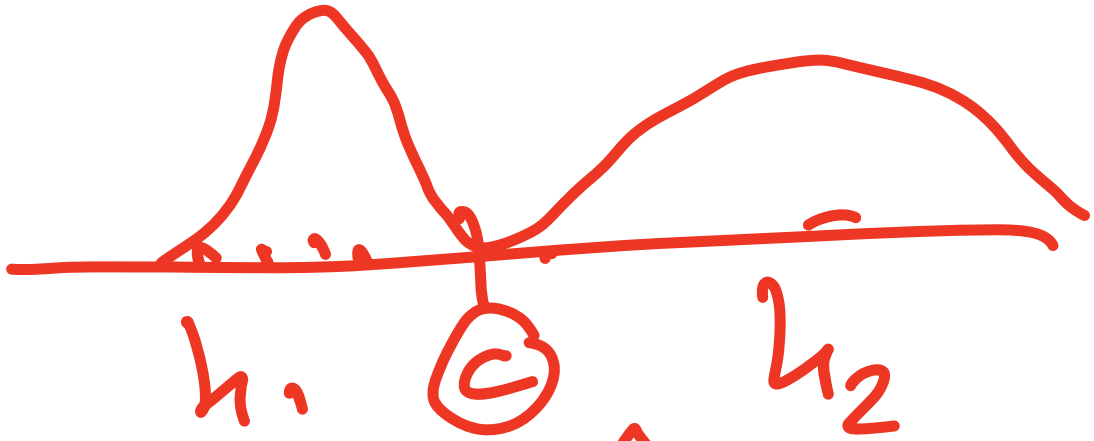
if want to do do something more local ...

$h \Rightarrow h_x$

$h_x^* \Rightarrow$ best

$h \to h_{x_i}$

Toy



$$ncv(h_1, h_2) = \int \hat{f}^2 - 2E\hat{f}(x)$$

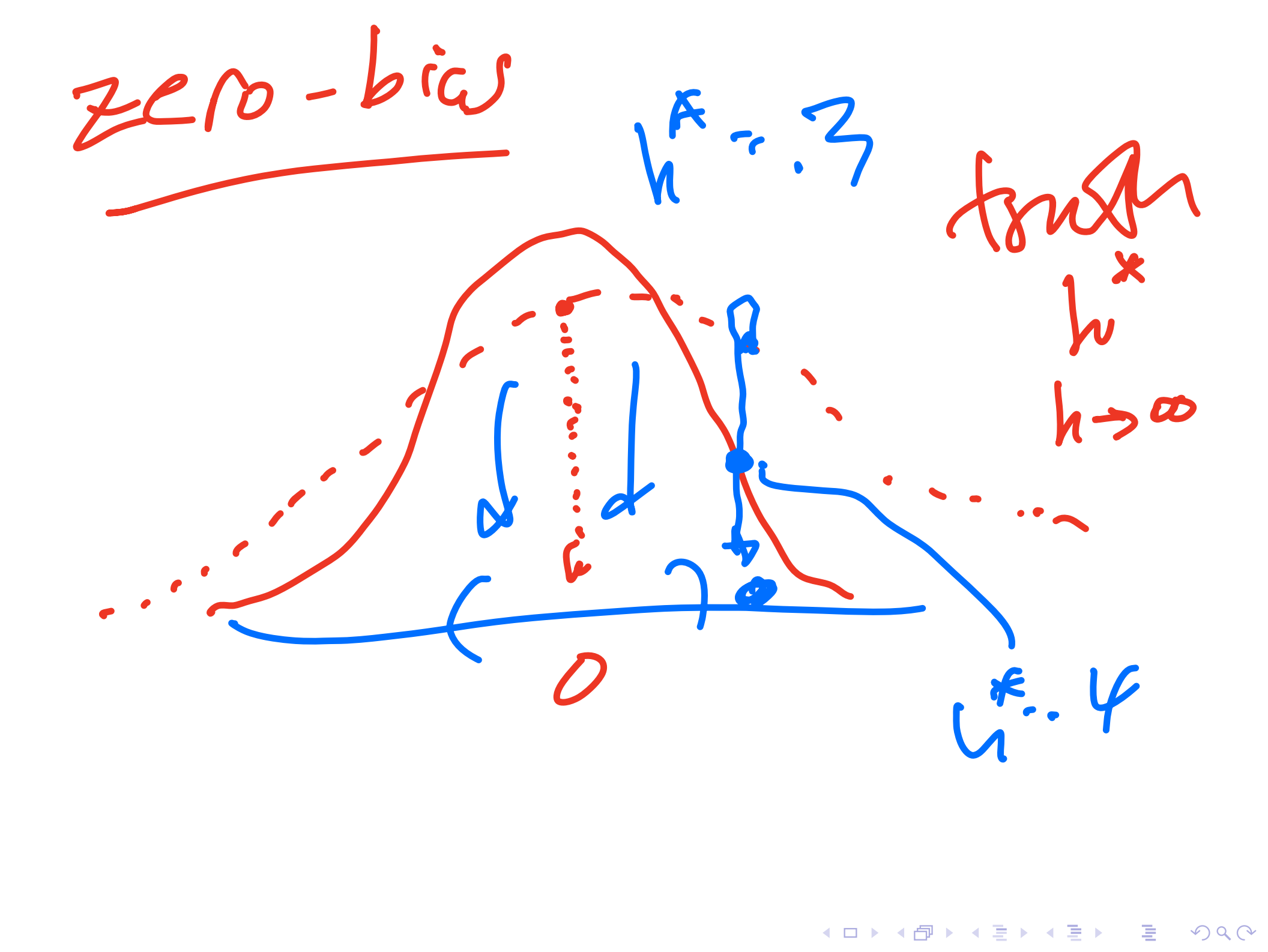
$$\hat{f}(x) = \frac{1}{n}\left[\sum_{i=1}^{n_1} K_{h_1}(x - x_i) + \sum_{i=n_1+1}^{n} K_{h_2}(x - x_i)\right]$$


h → h

$\frac{1}{n} \sum K_h(x - x_i)$

↑ play with

(ξ h's ?)


zero-bias
$h^A = .3$
h^*
$h \to \infty$
0
$h^* = 4$