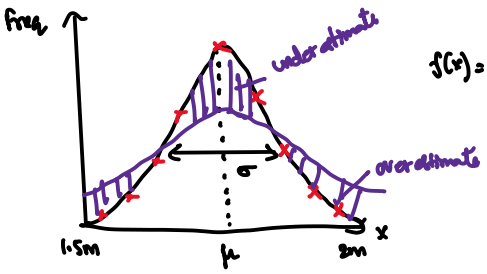
Week 1

Tuesday, 21. January 2025 04:51

Linear Algebra : Prof. Zain Kapadia, Dept of Mathematics. & Dr. Sam Cooper.



$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left\{-\frac{(x-\mu)^2}{2\sigma^2}\right\}$$

underestimate & overestimate } measure of goodness.

These vectors can help us steer towards the best result with calculus & vectors combined together.

Solving some questions :

i) $3x - y = 2 \;;\; x = 4$

$3(4) - y = 2$ [4, 10]

$y = 12 - 2 = 10$ [5, 8]

ii) $3x - 2y = 7 \quad 2x - 2y = 2$

$2y = 2x - 2$

$3x - 2x + 2 = 7$ $\quad 2y = 10 - 2$

$x + 2 = 7$ $\quad y = \frac{8}{2} = 4$ //.

$x = 5$

(iii) $3x - 2y = 4 \;\times 2 \quad 6x - 4y = 8$

$6x + 3y = 15 \quad (-) \;6x \;(-)\; 3y = 15$

$6x + 3 = 15 \quad -7y = -7$

$6x = 12 \quad (2, 1) \quad y = 1$

$x = 2$

iv) $-2x + 2y = 20 \;)\times 3 \quad -6x + 6y = 60$

$5x + 3y = 6 \;)\times 2 \quad (-)\; 10x \;(-)\; 6y = 12$

$-15 + 3y = 6 \quad -16x = 48$

$3y = 6 + 15 \quad x = \frac{48}{16} = -3$ //.

$3y = 21 \quad y = 7$ //.

v) $3x - 2y + z = 7$

$x + y + z = 2$ ①

$3x - 2y - z = 3$

$3x - 2y + z = 7$

$(-)\; 3x + 2y + z = 3$

$2z = 4 \quad z = 4/2 = 2$ //.