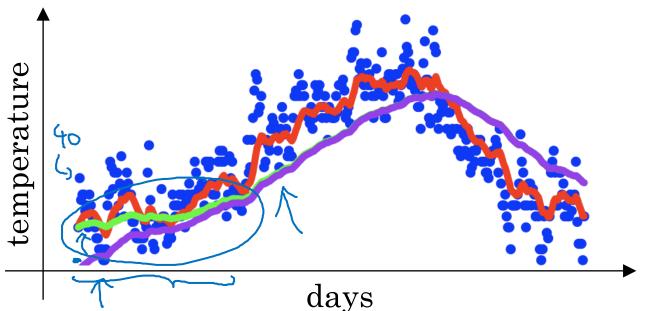


Optimization Algorithms

Bias correction in exponentially weighted average

Bias correction



$$\frac{1}{1-\beta^{t}}$$

$$t=2: 1-\beta^{t} = 1-(0.98)^{2} = 0.0396$$

$$\frac{1}{0.0396} = \frac{0.01960. + 0.020}{0.0396}$$

B = 0.08

 $v_t = \beta v_{t-1} + (1 - \beta)\theta_t$ $v_0 = 0$ $v_1 = 0.98$ $v_1 = 0.98$ $v_1 = 0.98$ $v_2 = 0.98$ $v_1 + 0.02$ $v_2 = 0.98$ $v_1 + 0.02$ $v_2 = 0.98$ $v_1 + 0.02$ $v_2 = 0.98$ $v_2 = 0.98$ $v_3 + 0.02$ $v_4 = 0.02$ $v_4 = 0.02$

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