

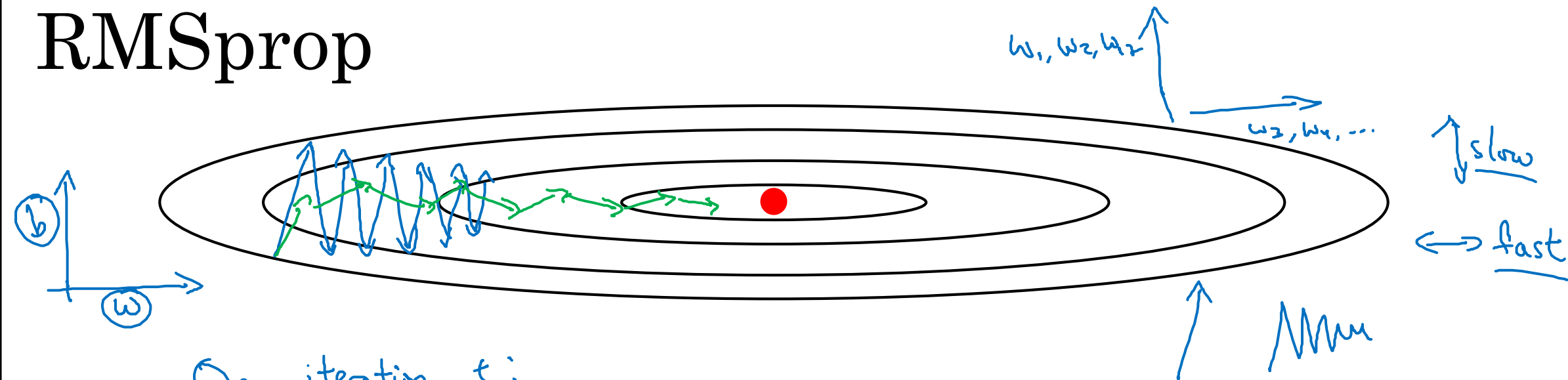


deeplearning.ai

Optimization Algorithms

RMSprop

RMSprop



On iteration t :

Compute dw, db on current mini-batch

$$\underline{S_{dw}} = \beta_2 \underline{S_{dw}} + (1 - \beta_2) \underline{dw^2} \leftarrow \text{small}$$

element-wise

$$\rightarrow \underline{S_{db}} = \beta_2 \underline{S_{db}} + (1 - \beta_2) \underline{db^2} \leftarrow \text{large}$$

$$w := w - \alpha \frac{dw}{\sqrt{\underline{S_{dw}} + \epsilon}} \leftarrow$$

$$b := b - \alpha \frac{db}{\sqrt{\underline{S_{db}} + \epsilon}} \leftarrow$$

$$\epsilon = 10^{-8}$$