Optimization
Algorithms

RMSprop

deeplearning.ai

RMSprop
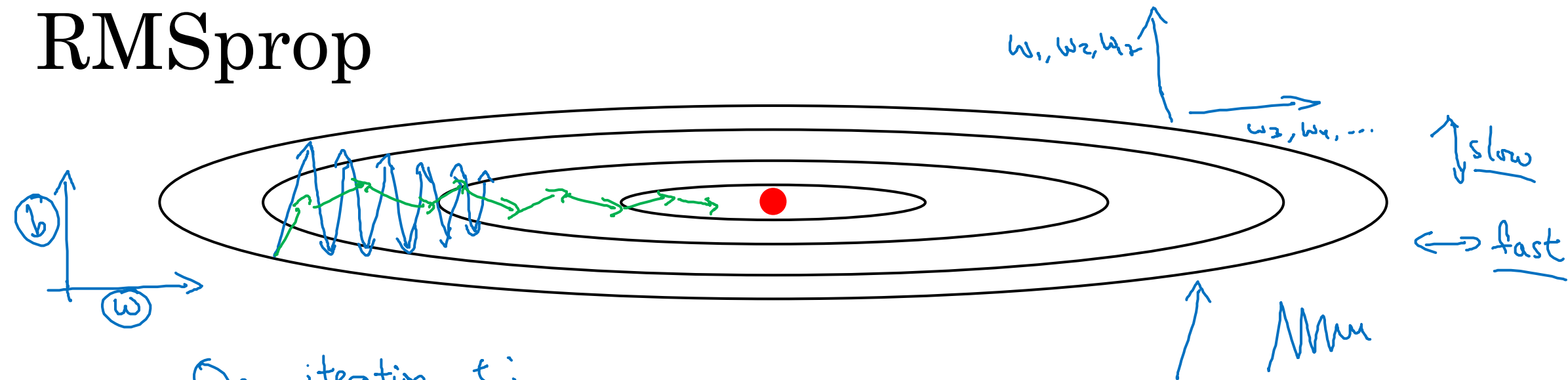
On iteration t:

Compute dW, db on current mini-batch

$$S_{dW} = \beta_2 S_{dW} + (1-\beta_2) dW^2 \quad \longleftarrow \text{ small}$$

element-wise

$$\to S_{db} = \beta_2 S_{db} + (1-\beta_2) db^2 \quad \longleftarrow \text{ large}$$

$$W := W - \alpha \frac{dW}{\sqrt{S_{dW} + \varepsilon}} \quad \longleftarrow \qquad b := b - \alpha \frac{db}{\sqrt{S_{db} + \varepsilon}} \longleftarrow$$

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

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