

Optimization

problems $\left\{ \begin{array}{l} \text{Local optima} \\ \text{Plateau} \\ \text{Saddle point} \end{array} \right.$

solve $\left\{ \begin{array}{l} \text{Newton's method} \\ \text{Momentum} \end{array} \right.$

Momentum : $\theta_{k+1} = \theta_k - \alpha g_k$

$$g_k = \nabla_{\theta} L(\theta_k) + \mu \underbrace{g_{k-1}}_{\substack{\text{"blend-in"} \\ \text{previous direction}}}$$