→ WEIGHT INIT. (What can be done) :

⇒ Through experimentation, there are 2 practical solutns

↳ ① Xavier / Glorot Init. (tanh, sigmoid) → a) Normal
                                          → b) Uniform

↳ ② He Init (relu). → a) Normal
                    → b) Uniform

⇒ Intuition :

⇒ 

fan_in → No. of i/p edges to node

fan_out → " " o/p " from "

→ ① Uniform Distribution : $W_{ij} \sim \text{Uniform}\left[\frac{1}{\sqrt{fan\_in}}, \frac{-1}{\sqrt{fan\_in}}\right]$

⇒ Xavier / Glorat :-

↳ ① Normal : $W_{ij} \approx N(0, \sigma)$ ⋮ $\sigma = \sqrt{\frac{2}{(fan\_in + fan\_out)}}$

↳ ② Uniform : $W_{ij} \sim U\left[\frac{-\sqrt{6}}{\sqrt{fan\_in + fan\_out}}, \frac{\sqrt{6}}{\sqrt{fan\_in + fan\_out}}\right]$

⇒ He init :

↳ ① Uniform : $W_{ij} \approx U\left[-\sqrt{\frac{6}{fan\_in}}, \sqrt{\frac{6}{fan\_in}}\right]$

↳ ② Normal : $W_{ij} \approx N(0, \sigma)$ ⋮ $\sigma = \sqrt{\frac{2}{fan\_in}}$