نوع تابع فعال‌ساز $\longleftarrow$ ReLU

$۰/۵ = \gamma, \beta$

$۴ = Batch\_size$

بازه n	n	u_1	u_2
	۱	۱۲۱	۱۴/۸
	۲	۱۱۴	۱۵/۲
	۳	۲۱۰	۹/۴
	۴	۱۹۵	۸/۱

$n=1 \longrightarrow z_1' = (-0/۴ \times ۱۲۱) + (-0/۳ \times ۱۴/۸) = -۵۲/۸۴۴$

$n=۲ \longrightarrow z_1' = (-0/۴ \times ۱۱۴) + (-0/۳ \times ۱۵/۲) = -۵۰/۱۶$

Soroush

$$n = 3 \longrightarrow z'_1 = (-0.4 \times 210) + (-0.3 \times 9.4) = -84.82$$

$$n = 4 \longrightarrow z'_1 = (-0.4 \times 195) + (-0.3 \times 8.1) = -80.43$$

$$\boxed{\mu(z'_1)} = \frac{1}{4}\left(-53.44 - 50.14 - 84.82 - 80.43\right)$$

$$= \frac{1}{4}\left(-270.85\right) = \boxed{-47.71}$$

$$\sigma^2(z'_1) = \frac{1}{4}\Big[\left(-53.44 - (-47.71)\right)^2 + \left(-50.14 - (-47.71)\right)^2 +$$

$$\left(-84.82 - (-47.71)\right)^2 + \left(-80.43 - (-47.71)\right)^2\Big]$$

$$= \frac{1}{4}\left(202.43 + 308.00 + 395.19 + 141.79\right)$$

$$= \frac{1038.41}{4} = 259.45 \longrightarrow \boxed{\sigma^2(z'_1) = 14.11}$$

$$\boxed{n=1} \longrightarrow \gamma\left(\frac{z'_i - \mu(z'_i)}{\sigma(z'_i)}\right) + \beta$$

$$5 \longrightarrow 0.5\left(\frac{-51.44 - (-47.76)}{14.11}\right) + 0.5$$

$$\longrightarrow 0.5\left(0.88\right) + 0.5 = 0.94 \xrightarrow{\text{relu}} \boxed{a'_1 = 0.94}$$

$$\boxed{n=2} \longrightarrow 0.5\left(\frac{-50.14 + 47.76}{14.11}\right) + 0.5$$

$$15 \longrightarrow 0.5\left(1.08\right) + 0.5 = 1.04 \xrightarrow{\text{relu}} \boxed{a'_1 = 1.04}$$

$$\boxed{n=3} \longrightarrow 0.5\left(\frac{-84.84 + 47.76}{14.11}\right) + 0.5$$

$$\longrightarrow 0.5\left(-1.18\right) + 0.5 = -0.09 \xrightarrow{\text{relu}} \boxed{a'_1 = 0}$$

$$\longrightarrow \boxed{n=4} \longrightarrow 0.5\left(\frac{-80.43 + 47.76}{14.11}\right) + 0.5$$

$$\text{Soroush} \longrightarrow 0.5\left(-0.78\right) + 0.5 = 0.11 \xrightarrow{\text{relu}} \boxed{a'_1 = 0.11}$$

Scanned by CamScanner

$$n=1 \longrightarrow z_1^2 = (1,2 \times 121) + (0,2 \times 14,8) = 150,24$$

$$n=2 \longrightarrow z_1^2 = (1,2 \times 114) + (0,2 \times 15,2) = 141,24$$

$$n=3 \longrightarrow z_1^2 = (1,2 \times 210) + (0,2 \times 9,4) = 254,82$$

$$n=4 \longrightarrow z_1^2 = (1,2 \times 195) + (0,2 \times 8,1) = 234,42$$

$$\boxed{\mu(z_1^2)} = \frac{1}{4}\left(150,24 + 141,24 + 254,82 + 234,42\right)$$

$$= \frac{782,85}{4} = \boxed{195,71}$$

$$\sigma^2(z_1^2) = \frac{1}{4}\left[\left(150,24 - 195,71\right)^2 + \left(141,24 - 195,71\right)^2 + \right.$$

$$\left.\left(254,82 - 195,71\right)^2 + \left(234,42 - 195,71\right)^2\right] =$$

$$\frac{1}{4}\left(2047,52 + 2953,92 + 3492,99 + 1458,11\right)$$

$$= \frac{10172,54}{4} = 2543,28 \longrightarrow \boxed{\sigma^2(z_1^2) = 50,43}$$ Seroush

$$\boxed{n=1} \longrightarrow 0{,}5\left(\frac{15{,}34 - 195{,}71}{50{,}43}\right) + 0{,}5$$

$$\longrightarrow 0{,}5(-0{,}9) + 0{,}5 = 0{,}05 \xrightarrow{relu} \boxed{a_1^2 = 0{,}05}$$

$$\boxed{n=2} \longrightarrow 0{,}5(-1{,}07) + 0{,}5 = -0{,}03 \xrightarrow{relu} \boxed{a_1^2 = 0}$$

$$\boxed{n=3} \longrightarrow 0{,}5(1{,}17) + 0{,}5 = 1{,}08 \xrightarrow{relu} \boxed{a_1^2 = 1{,}08}$$

$$\boxed{n=4} \longrightarrow 0{,}5(0{,}80) + 0{,}5 = 0{,}9 \xrightarrow{relu} \boxed{a_1^2 = 0{,}9}$$