

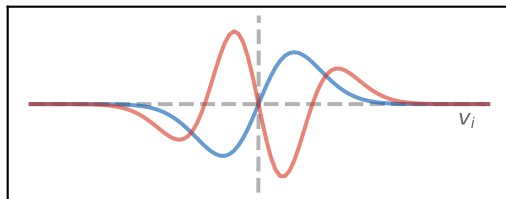
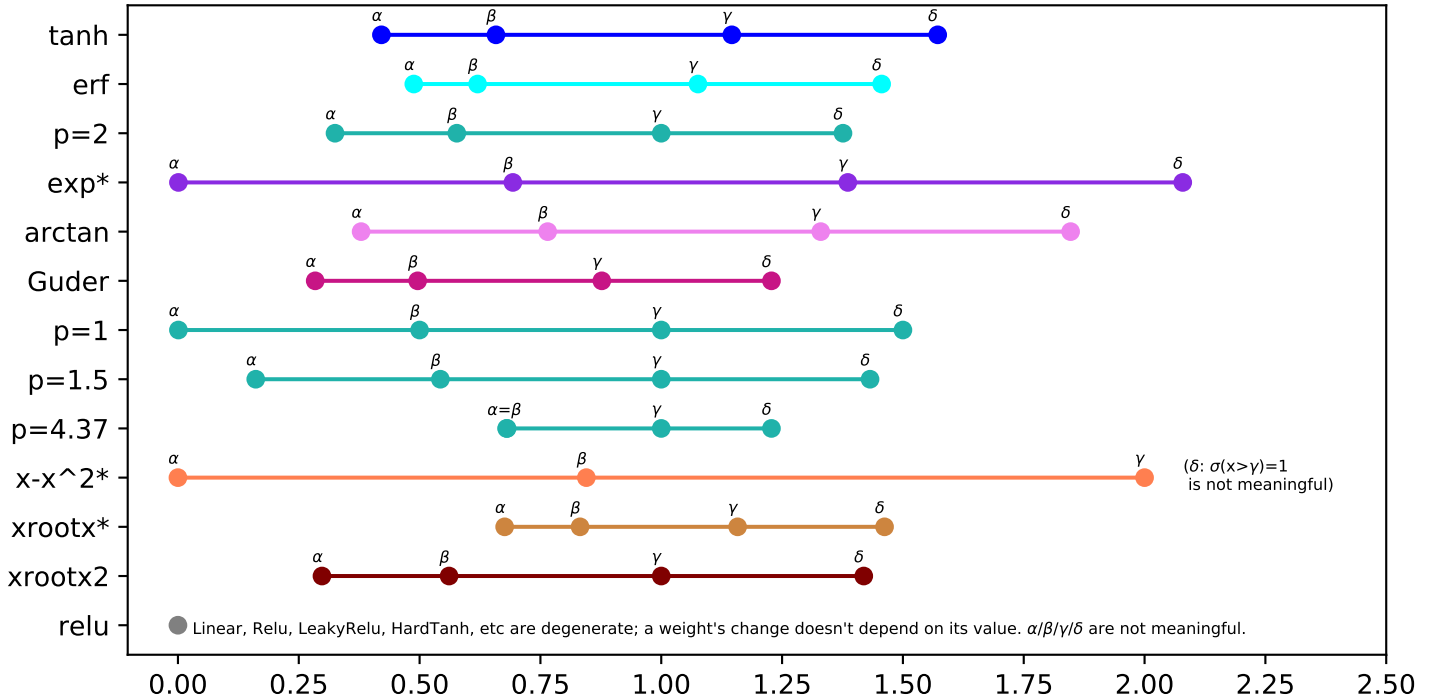
Comparison of zone-determining special points of sigmoidal activation functions σ .

Horizontal axis: $v_i = \sum_j w_{ij} x_j$. Vertical axis: numerical v_i values corresponding to special points of various σ 's.

Letting $D2(v_i) = -(y_i^* - \sigma(v_i)) \frac{d}{dv_i} \sigma(v_i)$ which aligns with $\frac{d^2}{dv_i^2} \sigma(v_i)$ for some σ , $D4 = \frac{d^2}{dv_i^2} (D2)$, subset $v_i > 0$, and case $y_i^* = 0$:

α : $\max(|D4|)$. β : $\max(|D2|)$. γ : $D4=0$ for $v_i > \beta$. δ : local $\max(|D4|)$ for $v_i > \gamma$.

Please see commentary_figures.txt for detailed information.



Left: typical shapes of $D2(v_i)$ & $D4(v_i)$, $y_i=0$

Right: locations of special points.

(Curves are not vertically to scale)

