Supplementary Materials for Equalization Loss v2: A New Gradient Balance Approach for Long-tailed Object Detection

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1. Mapping Function Types

In Table 1, we make the comparison among several variant mapping functions. Results show that our proposed sigmoid-like mapping function achieves the highest AP.

	neg ✓				neg ✓pos ✓			
type	AP	AP_r	AP_c	AP_f	AP	AP_r	AP_c	AP_f
sqrt ($y = \sqrt{x}$)	18.4	2.1	17.6	28.2	21.4	6.2	21.0	28.6
linear ($y = x$)	18.8	2.0	16.9	28.3	22.6	10.0	22.0	28.7
exp ($y = x^2$)	19.1	2.1	17.6	28.2	23.2	11.9	22.7	28.8
ours	19.7	7.3	17.6	27.6	23.7	14.9	22.8	28.6

Table 1: Comparison between different mapping functions

2. More Ablations of Hyper-Params

We have conducted more ablation studies of μ and γ, and the experiment results are presented in Table 2. Since μ represents the value which we think as a high enough gradient ratio, lowering its values significant degrades the accuracy. It is better to choose a higher value for it, *e.g.*, 0.8, 0.9. γ is more robust when μ is in a reasonable range.

γ	μ	AP	AP_r	AP_c	AP_f
10	0.4	20.4	5.7	19.0	28.4
10	0.5	21.6	9.6	20.1	28.5
10	0.6	22.4	11.8	21.1	28.6
5	0.8	23.1	12.4	22.4	28.7
15	0.8	23.2	15.0	22.0	28.1
20	0.8	22.3	15.4	20.6	27.3

Table 2: More Ablations of γ and μ.