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| # | Loss Function | Use cases |
| 1 | Binary Cross-Entropy | Works best in equal data distribution among classes scenarios Bernoulli distribution based loss function |
| 2 | Loss Function | Widely used with skewed dataset Weighs positive examples by Beta coefficient |
| 3 | Binary Cross-Entropy | Similar to weighted-cross entropy, used widely with skewed dataset weighs both positive as well as negative examples by Beta and 1-Beta respectively |
| 4 | Weighted Cross-Entropy | Works best with highly-imbalanced dataset down-weight the contribution of easy examples, enabling model to learn hard examples |
| 5 | Balanced Cross-Entropy | Variant of Cross-Entropy Used for hard-to-segment boundaries |
| 6 | Focal Loss | Inspired from Dice Coefficient, a metric to evaluate segmentation results. As Dice Coefficient is non-convex in nature, it has been modified to make it more tractable. |
| 7 | Distance map derived loss penalty term | Inspired from Sensitivity and Specificity metrics Used for cases where there is more focus on True Positives. |
| 8 | Dice Loss | Variant of Dice Coefficient Add weight to False positives and False negatives. |
| 9 | Sensitivity-Specificity Loss | Variant of Tversky loss with focus on hard examples |
| 10 | Tversky Loss | Variant of Dice Loss and inspired regression log-cosh approach for smoothing Variations can be used for skewed dataset |
| 11 | Focal Tversky Loss | Inspired by Hausdorff Distance metric used for evaluation of segmentation Loss tackle the non-convex nature of Distance metric by adding some variations |
| 12 | Log-Cosh Dice Loss(ours) | Variant of Dice Loss and inspired regression log-cosh approach for smoothing Variations can be used for skewed dataset |
| 13 | Hausdorff Distance loss | Inspired by Hausdorff Distance metric used for evaluation of segmentation Loss tackle the non-convex nature of Distance metric by adding some variations |
| 14 | Shape aware loss | Variation of cross-entropy loss by adding a shape based coefficient used in cases of hard-to-segment boundaries. |
| 15 | Combo Loss | Combination of Dice Loss and Binary Cross-Entropy used for lightly class imbalanced by leveraging benefits of BCE and Dice Loss |
| 16 | Exponential Logarithmic Loss | Combined function of Dice Loss and Binary Cross-Entropy Focuses on less accurately predicted cases |
| 18 | Correlation Maximized Structural Similarity Loss | Focuses on Segmentation Structure. Used in cases of structural importance such as medical images. |
| 19 | Jaccard/IoU loss | Works well on balanced data Emphasizes more on large foreground regions |
| 20 | SSIM loss | Captures the structural information in an image. Focuses on only boundaries of an object |

