Results analysis 21/02/2023

Legend

- **`custom_losses`**: the loss function used are the `BalancedMAELoss` and the `BalancedBCELoss`
- **`detach`**: the predicted `mask` is detached from the backpropagation graph before beeing multiplied by the predicted `depth`
- **`hard_mask`**: the predicted `mask` is thresholded to 0 or 1 before beeing multiplied by the predicted `depth` (the mask loss is still computed on the original mask)
- **`gt_only`**: the loss over the predicted `depth` is computed only on the pixels where the ground truth `mask` is 1
- **`n_out_channel`**: the number of output channels of the last convolutional layer of the U-Net network

Results

attempt	custom_losses	detach	hard_mask	gt_only	n_out_channel	Depth loss	Mask loss
1	**x**	**x**			8	0.24	0.20
2	**x**	**x**			16	0.19	***0.16***
3	**x**	**x**	**x**		8	0.21	0.20
4	**x**	**x**	**x**		16	0.21	0.29
5	**x**	**x**	**x**	**x**	8	***0.12***	0.21
6	**x**	**x**	**x**	**x**	16	0.34	0.25

Comments

Attempts	Additional notes
1-2	The predicted `mask` of `attempt 1` is a bit smaller wrt the one of `attempt 2`, and so cloaser to the target one. The predicted `mask` is also the best one among the other tests
3-4	Visually they reach similar performance both for `mask` and `depth` prediction. Note that `attempt 3` has a lower `mask` error (delta = 0.2) while the depth loss has almost the same behaviours
5-6	The prediction of this two attemts are really similar but `attempt 6` need more time toreach slightly worst performance. The predicted `depth`, visually, is overall the best one. On the other hand this approach give back the worst predicted `mask`