INITIAL NETWORK + WEIGHT FOR SOLVING THE UNBALANCED PROBLEM

NB	LR	BS	E	D	BN	W	DA	L	Min L	DC	P	R	Note:
8	1e-4	8	50	no	no	1	No	DC	0.965	0.037	0	0	No result obtained
8	1e-4	8	50	no	no	250	No	DC	0.974	0.027	0	0	No result obtained
8	1e-4	8	50	no	no	500	No	DC	0.96	0.04	0	0	No result obtained
8	1e-4	8	150 50	20%	yes	500	No	DC	0,234 0.28	0,766 - 0.72	0.90 0.90	0,88 0.86	BN and D needed
8	1e-5	8	150	20%	yes	250	No	DC	X	X	X	X	Not convergence too many epochs and too much time. Instable
8	1e-3	8	150	20%	yes	250	No	DC	0,330	0,712	0,84 1	0,78	Instable
8	1e-4	8	200	20%	yes	500	Large	DC	0,381	0,619	0,88	0,68	Worst result in dice coefficient and recall. Overfitting xs
8	1e-4	8	150	20%	yes	400	No	DC	0,269	0,710	0.90	0.83 0.86	Small overfitting
8	1e-4	16	150	20%	yes	250	No	DC	0,202	0,798	0,90 8	0,83	slightly better 250 than 150
8	1e-4	16	150	20%	yes	150	No	DC	0,223	0,777	0,90 5	0,78	
8	1e-4	32	150	20%	yes	250	No	DC	0.166	0.834	0.91	0.86	better batch (same 64)
8	1e-4	64	200	20%	yes	250	No	DC	0.165	0.834	0.91 6	0.82	
8	1e-4	8	150	20%	yes	250	No	BC	0,004	0,49	0,95	0,600	KFOLD
8	1e-4	8	150	20%	yes	1	No	BC	0,004	0,45	0,83	0,75	KFOLD
8	1e-4	32	300	20%	yes	1	No	BC	0.003	0.81	0.92	0.83	no kfold very good

NB=number base, LR=learning rate, BS=batch size, E=number epochs, D=dropout layer, BN= batch normalization layer, W= foreground pixel weight, DA=data augmentation (no-> small), L=loss function, Min L= min value of the loss, DC=dice coefficient, P=precision, R=recall

no dropout, BN yes: overfitting

K-Fold: 20% lower results

BOUNDARY MASK :

NB	LR	BS	E	D	BN	W	K	DA	Min L[1]	WS	DC	P	R	Note:
8	1e-4	8	180	20%	yes	500	3X3	No	-0.491	1	0.659	0,93	0.720	
8	1e-4	8	180	20%	yes	250	3X3	No	-0.511	1	0.686	0,93	0.755	
8	1e-4	8	150	20%	yes	250	2X2	No	-0.589	1	0.685	0,919	0.78	better kernel
8	1e-4	12	150	20%	yes	250	2X2	No	-0.646	1	0.735	0,945	0.79	
8	1e-4	16	150	20%	yes	250	2X2	No	-0.684	1	0.776	0.939	0.81	
8	1e-4	32	150	20%	yes	250	2X2	No	-0.691	5	0.795	0.936	0.80	not big diff BS neither WS

AUTOCONTEXT WITH K-FOLD

Best parameters from the previous attempt + kfold + autocontext (too long to try different parameters on that approach): bad results, around 0.62 dice coefficient.

[1] The value of the loss function with the boundary mask is between 0 and -1 and not between 1 and 0. It's important to take in account that when we analyze data