## Supplementary material for

## Dermoscopy-based Radiomics Help Distinguish Basal Cell Carcinoma and Actinic Keratosis: A Large-scale Real-world Study Based on a 207-combination Machine Learning Computational Framework

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Figure S1 Visualization of the results of difference analysis.

NN-MLP (cutoff:0.25, Ir:0.001, bs:5, ep:50, dropout:0.25)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25. Ir:0.001. bs:5. ep:50. dropout:0.5)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, Ir:0.001, bs:5, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.5, Ir:0.001, bs:5, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1	Recall	Data set
NN-MLP (cutoff:0.25, Ir:0.005, bs:5, ep:50, dropout:0.25)	1.000	1.000	1.000	1.000	1		Datarat& (train cot)
NN-MLP (cutoff:0.25 Ir:0.005 bs:5 ep:50 dropout:0.5)	1.000	1.000	1.000	1.000	1		DatasetA (datri set)
NN-MLP (cutoff:0.25 Ir:0.005 bs:5 ep:50 dropout:0.75)	1.000	1.000	1.000	1.000	1		DatasetB (test set)
NN-MLP (cutoff:0.5, Ir:0.005, bs:5, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		DatacetC (test cet)
NN-MLP (cutoff:0.25 Ir:0.01 bs:5 ep:50 dropout:0.25)	1 000	1 000	1 000	1 000	1	0.8	Dumatero (teat act)
NN-MLP (cutoff:0.25 Ir:0.01 bs:5 ep:50 dropout:0.5)	1.000	1.000	1.000	1.000	1		DatasetD (test set)
NN-MLP (cutoff:0.5 lr:0.01 be:5 ep:50 dropout:0.5)	1.000	1.000	1 000	1 000	1		
NN-MLP (cutoff:0.25 ir:0.01 bs:5 ep:50 dropout:0.75)	1 000	1,000	1 000	1 000	1		
NN-MLP (outoff:0.5 lr:0.01 be:5 ep:50 dropout:0.75)	1.000	1.000	1.000	1.000	4		
NN-MLP (outoff:0.25 Ir:0.05 be:5 ep:50 dropout:0.25)	1.000	1,000	1 000	1 000	1	0.6	
NN=MLP (cutoff:0.5 lr:0.05 bs:5 ep:50, dropout:0.25)	1.000	1,000	1 000	1 000	1		
NN-MLP (cutoff:0.25 Ir:0.05 bs:5 ep:50 dropout:0.25)	1.000	1.000	1.000	1.000			
NN=MLP (cutoff:0.5, in:0.05, bit5, cp:00, diopout:0.5)	1.000	1,000	1.000	1,000	1		
NN-MLP (outoff:0.25 Ir:0.05 basis op:50 dropout:0.75)	1.000	1,000	1.000	1,000		0.4	
NN-MLP (outoff:0.5, in:0.05, bs:5, ep.30, dropout:0.75)	1.000	1,000	1.000	1,000	1		
NN-MLP (outoff:0.25 kr:0.001 bo:15 op:50 dropout:0.25)	1.000	1,000	1.000	1,000			
NN-MLP (cutoff:0.25, in:0.001, bs:15, ep.30, dropout:0.25)	1.000	1.000	1.000	4.000			
NN-MI R (outoff:0.25 kr:0.001 bo:15 op:50 dropout:0.75)	1.000	1.000	1.000	4.000			
NN-MLP (outoff:0.5, in:0.001, bs:15, ep:50, dropout:0.75)	1.000	1,000	1.000	1.000	1	0.2	
NN-MLP (outoff:0.25 Ir:0.005 bo:15 op:50 dropout:0.25)	1.000	1,000	1.000	1,000	1		
NN=MLP (cutoff:0.25, if:0.005, bs:15, ep:50, dropout:0.25)	1.000	1.000	1.000	1.000			
NN-MLP (outoff:0.25, in:0.005, bs:15, ep.30, dropout:0.35)	1.000	1.000	1.000	1.000			
NN-MLP (outoff:0.5, in:0.005, bs:15, ep:50, dropout:0.75)	1.000	1,000	1.000	1.000	1		
NN-MLP (outoff:0.25 Ir:0.01 bo:15 op:50 dropout:0.25)	1.000	1,000	1.000	1,000	1		
NN=MLP (cutoff:0.25, if:0.01, bs:15, ep:50, dropout:0.25)	1.000	1.000	1.000	1.000			
NN-MLP (outoff:0.5, in:0.01, bs:15, ep:50, dropout:0.5)	1.000	1.000	1.000	1.000			
NN MID (staffo 05 iso 04 bad5 as 50 depende 75)	1.000	1.000	1.000	1.000			
NN MLP (calor:0.23, in:0.01, bs.13, ep.30, dropout.0.73)	1.000	1.000	1.000	4.000			
NN=MLP (cutoff:0.35, in:0.01, bs:15, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000			
NN-MLP (outoff:0.5. Ir:0.05, bs:15, ep:30, dropout:0.25)	1.000	1.000	1.000	1.000			
NN-MEP (catoffic) 3, it. 0.05, bs. 13, ep.30, diopoul.0.23)	1.000	1.000	1.000	1.000			
NN=MLP (cutoff:0.5, in:0.05, bs:15, ep:50, dropout:0.5)	1.000	1.000	1.000	1.000	1		
NN=NLP (cutoff:0.05, if:0.05, bs:15, ep:50, dropout:0.3)	1.000	1.000	1.000	1.000			
NN=MLP (cutoff:0.5, in:0.05, bs:15, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000			
NN=MLP (cutolico.5, inclus, bs:15, ep.50, dropouco.75)	1.000	1.000	1.000	1.000	1		
NN=MLP (cubil:0.25, il:0.001, bs:25, ep.50, dropout:0.25)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, If:0.001, bs:25, ep:50, dropout:0.5)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, Ir:0.001, bs:25, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		
NN=MLP (cutol1:0.5, if:0.001, bs:25, ep.50, dropout:0.75)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, If:0.005, bs:25, ep:50, dropout:0.25)	1.000	1.000	1.000	1.000			
NN-MLP (cutoff:0.25, If:0.005, bs:25, ep:50, dropout:0.5)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, Ir:0.005, bs:25, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.5, Ir:0.005, bs:25, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000			
NN-MLP (cutom:0.25, in:0.01, bs:25, ep:50, dropout:0.25)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutom:0.25, in:0.01, bs:25, ep:50, dropout:0.5)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, Ir:0.01, bs:25, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.5, Ir:0.01, bs:25, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, Ir:0.05, bs:25, ep:50, dropout:0.25)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, Ir:0.05, bs:25, ep:50, dropout:0.5)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.5, Ir:0.05, bs:25, ep:50, dropout:0.5)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.25, Ir:0.05, bs:25, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		
NN-MLP (cutoff:0.5, Ir:0.05, bs:25, ep:50, dropout:0.75)	1.000	1.000	1.000	1.000	1		

Figure S2 Recall rates of the machine learning models.



Figure S3 Compare the performance of machine learning prediction models in different data sets, and calculate the mean in the test set. (A)Calculation of AUC values of models in different datasets(B)Calculation of diagnostic accuracy of models in different datasets. (C) Calculation of F-score of models in different datasets.

XGBoost-default+Lasso-CV.10 fold (cutoff:0.5)

RF+Lasso-CV10 fold (mtry+23, 75%p)