RESULTS OF TRIQ AND OTHER IQA MODELS

Here we report experimental results of TRIQ and other IQA models. Please refer to the paper (https://arxiv.org/abs/2101.01097) for details about the experiment settings.

In the first experiment, the models were trained on the training set of the combined database of KonIQ-10k, KonIQ-half-sized, and LIVE-wild databases, and then evaluated on the testing set. Table I reports the evaluation results.

Table I. Evaluation results on the Combined testing set

Models	PLCC↑	SROCC↑	RMSE↓
CaHDC	0.625	0.628	0.473
Koncept512	0.719	0.755	0.601
ViT-IQA	0.775	0.764	0.388
R50+ViT-IQA	0.858	0.835	0.304
TRIQ	*0.884*	*0.868*	*0.280*

Table II reports the results of the models trained on the combined training set of KonIQ-half-sized, and LIVE-wild databases and then evaluated on the SPAQ database (https://github.com/h4nwei/SPAQ).

Table II. Evaluation results on the entire SPAQ database

Models	PLCC↑	SROCC↑	RMSE↓
CaHDC	0.647	0.656	0.720
Koncept512	0.817	0.825	0.607
ViT-IQA	0.754	0.762	0.585
R50+ViT-IQA	0.845	0.845	0.534
TRIQ	*0.848*	*0.857*	*0.480*

In addition, the trained models were also tested on individual testing sets from the KonIQ-10k, KonIQ-half-sized, and LIVE-wild databases, respectively, and Table III gives the evaluation results.

Table III. IQA models trained on **Combined** training set
and evaluation on the separate testing sets of KonIQ-10k & KonIQ-half-sized and LIVE-wild databases

Models	Testing set of KonIQ-10k			Testing set of KonIQ-half-sized			Testing set of LIVE-wild database		
	PLCC↑	SROCC↑	RMSE↓	PLCC↑	SROCC↑	RMSE↓	PLCC↑	SROCC↑	RMSE↓
CaHDC	0.702	0.721	0.442	0.731	0.701	0.386	0.551	0.542	0.693
Koncept512	0.789	0.828	0.570	0.749	0.788	0.637	0.693	0.704	0.592
TRIQ	*0.923*	*0.909*	*0.213*	*0.895*	*0.868*	*0.249*	*0.826*	*0.812*	*0.449*

In order to evaluate the model performance across resolutions and databases, we have also trained the models on KonIQ-10k, KonIQ-half-sized databases, and their combination, respectively. The models were evaluated on both the testing sets of KonIQ-10k and KonIQ-half-sized databases and the entire LIVE-wild database. Tables IV, V and VI report the respective evaluation results.

Table IV. IQA models trained on **KonIQ-10k** training set
and evaluation on the testing sets of KonIQ-10k & KonIQ-half-sized and entire LIVE-wild database

Models	Testing set of KonIQ-10k			Testing set of KonIQ-half-sized			Entire LIVE-wild database		
	PLCC↑	SROCC↑	RMSE↓	PLCC↑	SROCC↑	RMSE↓	PLCC↑	SROCC↑	RMSE↓
SGDNet	0.840	0.819	0.300	0.720	0.664	0.396	—	—	—
CaHDC	0.750	0.729	0.368	0.611	0.544	0.502	0.414	0.384	0.746
Koncept512	0.854	0.854	0.293	0.745	0.722	0.374	0.738	0.716	0.591
TRIQ	*0.925*	*0.907*	*0.212*	*0.837*	*0.818*	*0.349*	*0.805*	*0.781*	*0.503*

Table V. IQA models trained on **KonIQ-half-sized** training set
and evaluation on the testing sets of KonIQ-10k & KonIQ-half-sized and entire LIVE-wild database

Models	Testing set of KonIQ-10k			Testing set of KonIQ-half-sized			Entire LIVE-wild database		
	PLCC↑	SROCC↑	RMSE↓	PLCC↑	SROCC↑	RMSE↓	PLCC↑	SROCC↑	RMSE↓
SGDNet	0.772	0.777	0.431	0.823	0.798	0.320	—	—	—
CaHDC	0.627	0.658	0.458	0.763	0.723	0.364	0.578	0.575	0.686
Koncept512	0.869	0.876	0.575	0.923	0.901	0.215	*0.819*	*0.806*	0.681
TRIQ	*0.893*	*0.882*	*0.327*	*0.925*	*0.905*	*0.211*	0.800	0.779	*0.493*

Table VI. IQA models trained on **KonIQ-10k** & **KonIQ-half-sized** training sets
and evaluation on the testing sets of KonIQ-10k & KonIQ-half-sized and entire LIVE-wild database

Models	Combined Testing set of KonIQ-10k & KonIQ-half-sized			Testing set of KonIQ-10k			Testing set of KonIQ-half-sized			Entire LIVE-wild database		
	PLCC	SROCC	RMSE	PLCC	SROCC	RMSE	PLCC	SROCC	RMSE	PLCC	SROCC	RMSE
SGDNet	0.813	0.782	0.322	0.860	0.843	0.284	0.766	0.721	0.355	—	—	—
CaHDC	0.683	0.669	0.411	0.693	0.723	0.436	0.750	0.718	0.385	0.566	0.575	0.687
Koncept512	0.807	0.817	0.342	0.871	0.870	0.281	0.785	0.809	0.285	0.708	0.722	0.613
TRIQ	*0.900*	*0.880*	*0.244*	*0.919*	*0.906*	*0.219*	*0.889*	*0.861*	*0.266*	*0.845*	*0.784*	*0.500*