

AI-Generated Face Image Quality

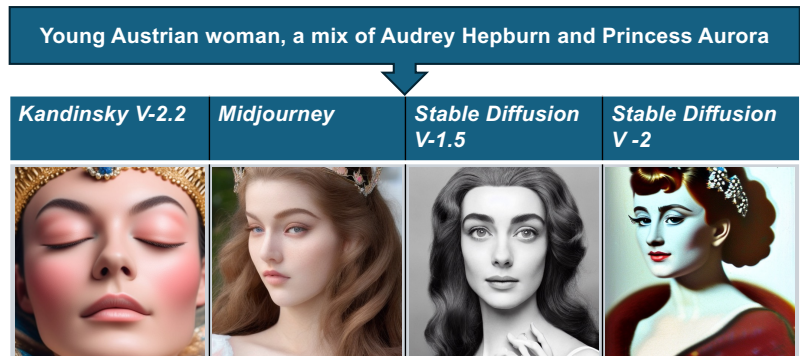
Novel T2I AGFI Image Quality Database and Assessment

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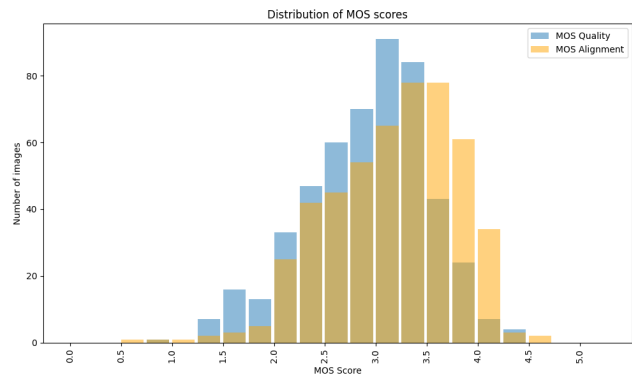
Supervisor: Prof Lin Weisi

Project Objectives:

Advanced generative Text-to-Image (T2I) models have led to the emergence of AI-Generated Facial Images (AGFIs). However, AGFIs exhibit significant quality variance, necessitating benchmark models aligned with human subjective ratings. This project explores popular T2I AGI models and diverse prompts for AGFI generation. Via rigorous subjective assessments, **AGFI-500 Database** a new human perception-based quality database was established.



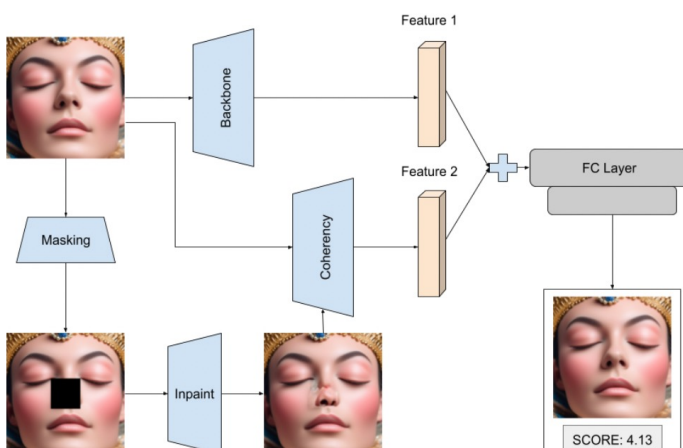
**AGFI-500
Database**



Generated Facial NR-IQA (GFNR-IQA)

A novel No-Reference Image Quality Assessment (NR-IQA) solution, was proposed as an alternative technique for individual AGFI quality scoring. Outperforming existing metrics.

Benchmark Experiment was conducted to assess AGFI-500 using various Image Quality Assessment (IQA) metrics, to evaluate methodologies for scoring AGFI perceptual quality.



Type	Metric	SRCC	KRCC	PLCC
Loss Function	KID	0.0831	0.0538	0.0709
	IS	0.0606	0.0426	0.0396
Handcrafted Based	NIQE	0.1409	0.0967	0.1815
	ILNIQE	0.1510	0.0967	0.1910
	BRISQUE	0.1235	0.0831	0.1705
Support Vector Regression Based	BMPRI	0.1859	0.1228	0.0109
Deep Learning Based	DBCNN	0.5173	0.3911	0.5398
	CLIQQA	0.1173	0.06617	0.1217
	CNNIQA	0.4412	0.3813	0.2209
Novel Method trained on AGFI-500	GFNR-IQA (ResNet-18 + VGG16)	0.7116	0.5290	0.7322