Table 7.1: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the maximum saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in the same lung side from the original image from the dataset. *p* stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation). The underscored values show when training with the proposed salience augmentation achieved a P-value lower than 0.05 when compared with training with the augmentation proposed by (Krinski et al., 2023), and the null hypothesis was rejected.

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8642	0.8090	0.8862	0.8233	0.8200	0.7564	0.8536	0.7878	0.9091	0.8507
	Stylegan	0.8609	0.8062	0.8868	0.8236	0.8196	0.7565	0.8503	0.7837	0.9087	0.8503
0.1	Stargan	0.8662	0.8109	0.8874	0.8247	0.8211	0.7574	0.8610	0.7962	0.9100	0.8519
	Stylegan	0.8653	0.8099	0.8881	0.8248	0.8202	0.7564	0.8586	0.7930	0.9087	0.8502
0.15	Stargan	0.8621	0.8069	0.8878	0.8247	0.8257	0.7630	0.8736	0.8107	0.9113	0.8537
	Stylegan	0.8668	0.8112	0.8881	0.8253	0.8237	0.7599	0.8655	0.8014	0.9102	0.8523
0.2	Stargan	0.8621	0.8073	0.8880	0.8250	0.8221	0.7590	0.8677	0.8039	0.9105	0.8525
	Stylegan	0.8643	0.8091	0.8898	0.8270	0.8234	0.7604	0.8665	0.8028	0.9109	0.8530
0.25	Stargan	0.8628	0.8066	0.8875	0.8247	0.8253	0.7624	0.8736	0.8107	0.9110	0.8533
	Stylegan	0.8647	0.8100	0.8894	0.8264	0.8205	0.7578	0.8683	0.8049	0.9112	0.8533
0.3	Stargan	0.8654	0.8091	0.8894	0.8265	0.8248	0.7619	0.8717	0.8085	0.9105	0.8529
	Stylegan	0.8609	0.8048	0.8904	0.8276	0.8259	0.7617	0.8668	0.8031	0.9101	0.8522
0.35	Stargan	0.8690	0.8130	0.8895	0.8270	0.8275	0.7642	0.8745	0.8119	0.9111	0.8532
	Stylegan	0.8644	0.8090	0.8907	0.8283	0.8239	0.7606	0.8681	0.8047	0.9112	0.8535
0.4	Stargan	0.8676	0.8122	0.8894	0.8266	0.8250	0.7612	0.8732	0.8104	0.9109	0.8532
	Stylegan	0.8622	0.8055	0.8907	0.8281	0.8250	0.7619	0.8689	0.8053	0.9112	0.8534
0.45	Stargan	0.8643	0.8088	0.8896	0.8271	0.8273	0.7640	0.8755	0.8132	0.9118	0.8540
	Stylegan	0.8641	0.8075	0.8915	0.8291	0.8257	0.7623	0.8701	0.8069	0.9108	0.8529
0.5	Stargan	0.8641	0.8097	0.8904	0.8283	0.8275	0.7638	0.8734	0.8108	0.9114	0.8539
	Stylegan	0.8646	0.8086	0.8904	0.8278	0.8268	0.7633	0.8697	0.8066	0.9108	0.8528

Table 7.2: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the minimum saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in the same lung side from the original image from the dataset. *p* stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation). The F-scores highlighted in blue, and the IoUs highlighted in red indicate the metrics where the proposed proposed salience augmentation achieved higher values compared to both the generic data augmentation techniques and the random version proposed by (Krinski et al., 2023). The underscored values show when training with the proposed salience augmentation achieved a P-value lower than 0.05 when compared with training with the augmentation proposed by (Krinski et al., 2023), and the null hypothesis was rejected.

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8680	0.8125	0.8900	0.8280	0.8278	0.7638	**0.8748**	**0.8121**	0.9116	0.8542
	Stylegan	0.8664	0.8096	0.8886	0.8260	0.8213	0.7582	0.8691	0.8054	0.9100	0.8521
0.1	Stargan	0.8640	0.8080	0.8902	0.8277	0.8228	0.7593	0.8704	0.8071	0.9105	0.8529
	Stylegan	0.8665	0.8106	0.8914	0.8294	0.8253	0.7618	0.8745	0.8123	0.9117	0.8544
0.15	Stargan	0.8643	0.8091	0.8930	0.8308	0.8265	0.7631	0.8748	0.8124	0.9117	0.8541
	Stylegan	0.8652	0.8099	0.8911	0.8290	0.8302	0.7668	**0.8781**	**0.8162**	0.9120	0.8547
0.2	Stargan	0.8652	0.8098	0.8914	0.8289	0.8255	0.7622	0.8742	0.8116	0.9120	0.8545
	Stylegan	0.8664	0.8108	0.8901	0.8281	0.8245	0.7604	0.8750	0.8128	0.9121	0.8547
0.25	Stargan	0.8650	0.8093	0.8917	0.8296	0.8291	0.7655	0.8790	0.8171	0.9127	0.8556
	Stylegan	0.8630	0.8082	0.8902	0.8281	0.8239	0.7614	0.8774	0.8159	0.9124	0.8550
0.3	Stargan	0.8633	0.8079	0.8908	0.8293	0.8259	0.7622	0.8739	0.8116	0.9118	0.8543
	Stylegan	0.8629	0.8078	0.8908	0.8283	0.8250	0.7613	0.8779	0.8162	0.9135	0.8563
0.35	Stargan	0.8652	0.8096	0.8900	0.8280	0.8278	0.7646	0.8779	0.8162	0.9132	0.8563
	Stylegan	0.8638	0.8084	0.8930	0.8310	0.8307	0.7674	**0.8811**	**0.8201**	0.9131	0.8561
0.4	Stargan	0.8621	0.8070	0.8909	0.8288	0.8305	0.7672	0.8780	0.8163	0.9123	0.8549
	Stylegan	0.8611	0.8063	0.8910	0.8290	0.8253	0.7621	0.8761	0.8139	0.9118	0.8542
0.45	Stargan	0.8636	0.8086	0.8910	0.8287	0.8273	0.7636	0.8774	0.8155	0.9126	0.8553
	Stylegan	0.8638	0.8082	0.8918	0.8301	0.8265	0.7633	0.8804	0.8193	0.9137	0.8568
0.5	Stargan	0.8638	0.8074	0.8916	0.8291	0.8304	0.7675	0.8783	0.8167	0.9133	0.8562
	Stylegan	0.8626	0.8076	0.8945	0.8329	0.8306	0.7675	**0.8805**	**0.8195**	0.9130	0.8562

Table 7.3: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the a random saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in the same lung side from the original image from the dataset. *p* stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation). The underscored values show when training with the proposed salience augmentation achieved a P-value lower than 0.05 when compared with training with the augmentation proposed by (Krinski et al., 2023), and the null hypothesis was rejected.

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8657	0.8106	0.8891	0.8269	0.8224	0.7582	0.8624	0.7980	0.9098	0.8518
	Stylegan	0.8648	0.8088	0.8885	0.8259	0.8231	0.7596	0.8676	0.8038	0.9104	0.8524
0.1	Stargan	0.8629	0.8077	0.8894	0.8272	0.8194	0.7566	0.8666	0.8027	0.9103	0.8521
	Stylegan	0.8636	0.8080	0.8900	0.8280	0.8255	0.7622	0.8716	0.8086	0.9116	0.8537
0.15	Stargan	0.8633	0.8078	0.8889	0.8267	0.8245	0.7609	0.8706	0.8073	0.9104	0.8525
	Stylegan	0.8643	0.8091	0.8882	0.8254	0.8190	0.7556	0.8600	0.7949	0.9100	0.8518
0.2	Stargan	0.8645	0.8086	0.8883	0.8253	0.8235	0.7597	0.8665	0.8025	0.9095	0.8514
	Stylegan	0.8676	0.8110	0.8907	0.8282	0.8199	0.7579	0.8714	0.8083	0.9105	0.8527
0.25	Stargan	0.8639	0.8077	0.8891	0.8265	0.8268	0.7626	0.8761	0.8139	0.9116	0.8543
	Stylegan	0.8633	0.8074	0.8902	0.8282	0.8318	0.7675	0.8747	0.8126	0.9109	0.8536
0.3	Stargan	0.8652	0.8092	0.8903	0.8283	0.8272	0.7638	0.8761	0.8142	0.9124	0.8548
	Stylegan	0.8662	0.8096	0.8892	0.8269	0.8251	0.7614	0.8723	0.8094	0.9108	0.8530
0.35	Stargan	0.8631	0.8072	0.8919	0.8298	0.8303	0.7667	0.8765	0.8144	0.9119	0.8545
	Stylegan	0.8654	0.8101	0.8900	0.8278	0.8190	0.7560	0.8736	0.8114	0.9116	0.8538
0.4	Stargan	0.8635	0.8083	0.8903	0.8281	0.8294	0.7660	0.8770	0.8153	0.9119	0.8549
	Stylegan	0.8641	0.8079	0.8920	0.8300	0.8250	0.7615	0.8755	0.8135	0.9113	0.8539
0.45	Stargan	0.8648	0.8091	0.8892	0.8271	0.8234	0.7607	0.8762	0.8142	0.9128	0.8555
	Stylegan	0.8656	0.8099	0.8924	0.8302	0.8284	0.7636	0.8761	0.8140	0.9118	0.8544
0.5	Stargan	0.8654	0.8099	0.8909	0.8286	0.8302	0.7660	0.8789	0.8173	0.9122	0.8552
	Stylegan	0.8660	0.8097	0.8928	0.8309	0.8258	0.7625	0.8765	0.8145	0.9108	0.8535

Table 7.4: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the maximum saliency distance between the image generated by the GAN. The lesions are placed in the opposite lung side from the original image from the dataset. *p* stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation). The underscored values show when training with the proposed salience augmentation achieved a P-value lower than 0.05 when compared with training with the augmentation proposed by (Krinski et al., 2023), and the null hypothesis was rejected.

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8600	0.8045	0.8872	0.8245	0.8203	0.7563	0.8567	0.7910	0.9088	0.8505
	Stylegan	0.8633	0.8084	0.8864	0.8234	0.8215	0.7576	0.8558	0.7899	0.9094	0.8510
0.1	Stargan	0.8675	0.8125	0.8882	0.8254	0.8177	0.7539	0.8618	0.7970	0.9111	0.8533
	Stylegan	0.8635	0.8080	0.8878	0.8253	0.8206	0.7577	0.8600	0.7950	0.9091	0.8508
0.15	Stargan	0.8627	0.8072	0.8871	0.8243	0.8223	0.7588	0.8612	0.7965	0.9094	0.8509
	Stylegan	0.8660	0.8100	0.8873	0.8248	0.8217	0.7589	0.8607	0.7957	0.9099	0.8515
0.2	Stargan	0.8632	0.8077	0.8879	0.8252	0.8227	0.7590	0.8600	0.7949	0.9100	0.8521
	Stylegan	0.8640	0.8081	0.8879	0.8259	0.8229	0.7591	0.8637	0.7990	0.9100	0.8518
0.25	Stargan	0.8656	0.8098	0.8887	0.8257	0.8244	0.7616	0.8722	0.8093	0.9114	0.8541
	Stylegan	0.8651	0.8092	0.8880	0.8255	0.8225	0.7587	0.8640	0.7996	0.9098	0.8519
0.3	Stargan	0.8649	0.8094	0.8908	0.8276	0.8250	0.7612	0.8720	0.8090	0.9112	0.8535
	Stylegan	0.8645	0.8089	0.8912	0.8285	0.8238	0.7608	0.8679	0.8042	0.9109	0.8532
0.35	Stargan	0.8635	0.8086	0.8887	0.8255	0.8239	0.7606	0.8714	0.8082	0.9097	0.8518
	Stylegan	0.8642	0.8088	0.8894	0.8267	0.8228	0.7594	0.8716	0.8087	0.9104	0.8523
0.4	Stargan	0.8655	0.8096	0.8882	0.8258	0.8274	0.7634	0.8727	0.8100	0.9115	0.8535
	Stylegan	0.8649	0.8098	0.8914	0.8285	0.8257	0.7629	0.8708	0.8076	0.9114	0.8536
0.45	Stargan	0.8662	0.8105	0.8916	0.8291	0.8242	0.7615	0.8740	0.8114	0.9121	0.8546
	Stylegan	0.8666	0.8101	0.8888	0.8262	0.8247	0.7613	0.8715	0.8082	0.9113	0.8535
0.5	Stargan	0.8643	0.8085	0.8885	0.8258	0.8284	0.7654	0.8736	0.8109	0.9120	0.8544
	Stylegan	0.8638	0.8072	0.8883	0.8255	0.8248	0.7619	0.8699	0.8069	0.9112	0.8534

Table 7.5: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the minimum saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in the opposite lung side from the original image from the dataset. *p* stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation). The F-scores highlighted in blue, and the IoUs highlighted in red indicate the metrics where the proposed proposed salience augmentation achieved higher values compared to both the generic data augmentation techniques and the random version proposed by (Krinski et al., 2023). The underscored values show when training with the proposed salience augmentation achieved a P-value lower than 0.05 when compared with training with the augmentation proposed by (Krinski et al., 2023), and the null hypothesis was rejected.

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8659	0.8106	0.8894	0.8266	0.8214	0.7576	0.8630	0.7983	0.9105	0.8525
	Stylegan	0.8643	0.8089	0.8885	0.8258	0.8230	0.7597	0.8706	0.8073	0.9101	0.8519
0.1	Stargan	0.8669	0.8115	0.8894	0.8264	0.8226	0.7598	0.8729	0.8099	0.9107	0.8529
	Stylegan	0.8669	0.8112	0.8915	0.8296	0.8276	0.7647	**0.8773**	**0.8152**	**0.9125**	**0.8552**
0.15	Stargan	0.8638	0.8075	0.8904	0.8285	0.8294	0.7660	0.8752	0.8126	0.9113	0.8539
	Stylegan	0.8638	0.8073	0.8898	0.8278	0.8258	0.7620	0.8773	0.8152	0.9123	0.8550
0.2	Stargan	0.8669	0.8118	0.8917	0.8296	0.8239	0.7601	0.8751	0.8127	0.9120	0.8543
	Stylegan	0.8670	0.8118	0.8927	0.8312	0.8287	0.7652	0.8784	0.8166	0.9133	0.8560
0.25	Stargan	0.8658	0.8102	0.8914	0.8300	0.8251	0.7613	0.8713	0.8081	0.9124	0.8550
	Stylegan	0.8612	0.8057	0.8896	0.8270	0.8263	0.7634	0.8784	0.8169	0.9118	0.8544
0.3	Stargan	0.8656	0.8098	0.8927	0.8308	0.8293	0.7649	0.8790	0.8176	0.9133	0.8563
	Stylegan	0.8657	0.8095	0.8892	0.8273	0.8288	0.7650	0.8760	0.8140	0.9115	0.8545
0.35	Stargan	0.8665	0.8107	0.8922	0.8306	0.8312	0.7680	0.8801	0.8187	0.9139	0.8573
	Stylegan	0.8665	0.8103	0.8926	0.8311	0.8296	0.7660	0.8795	0.8181	0.9129	0.8556
0.4	Stargan	0.8652	0.8096	0.8927	0.8306	0.8282	0.7646	0.8785	0.8170	0.9127	0.8553
	Stylegan	0.8632	0.8077	0.8925	0.8306	0.8361	0.7725	**0.8814**	**0.8205**	0.9142	0.8575
0.45	Stargan	0.8668	0.8109	0.8927	0.8303	0.8299	0.7672	**0.8830**	**0.8222**	0.9138	0.8573
	Stylegan	0.8591	0.8049	0.8894	0.8269	0.8254	0.7619	0.8776	0.8156	0.9129	0.8557
0.5	Stargan	0.8654	0.8104	0.8918	0.8297	0.8300	0.7665	0.8794	0.8182	0.9138	0.8569
	Stylegan	0.8662	0.8106	0.8922	0.8302	0.8267	0.7644	0.8776	0.8160	0.9119	0.8545

Table 7.6: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the a random saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in the opposite lung side from the original image from the dataset. *p* stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation). The underscored values show when training with the proposed salience augmentation achieved a P-value lower than 0.05 when compared with training with the augmentation proposed by (Krinski et al., 2023), and the null hypothesis was rejected.

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8620	0.8072	0.8896	0.8271	0.8257	0.7633	0.8678	0.8044	0.9104	0.8527
	Stylegan	0.8644	0.8090	0.8877	0.8252	0.8211	0.7575	0.8554	0.7893	0.9081	0.8497
0.1	Stargan	0.8647	0.8097	0.8881	0.8253	0.8258	0.7621	0.8648	0.8005	0.9108	0.8530
	Stylegan	0.8662	0.8107	0.8888	0.8261	0.8220	0.7583	0.8644	0.8002	0.9092	0.8509
0.15	Stargan	0.8628	0.8071	0.8889	0.8266	0.8282	0.7641	0.8695	0.8060	0.9111	0.8532
	Stylegan	0.8644	0.8092	0.8893	0.8271	0.8240	0.7611	0.8658	0.8016	0.9095	0.8509
0.2	Stargan	0.8657	0.8102	0.8901	0.8274	0.8258	0.7633	0.8716	0.8085	0.9117	0.8541
	Stylegan	0.8701	0.8149	0.8891	0.8262	0.8236	0.7601	0.8723	0.8093	0.9101	0.8524
0.25	Stargan	0.8606	0.8050	0.8895	0.8267	0.8252	0.7620	0.8738	0.8112	0.9113	0.8536
	Stylegan	0.8651	0.8084	0.8904	0.8277	0.8224	0.7579	0.8690	0.8058	0.9102	0.8520
0.3	Stargan	0.8650	0.8102	0.8901	0.8281	0.8280	0.7645	0.8718	0.8088	0.9112	0.8536
	Stylegan	0.8628	0.8068	0.8910	0.8284	0.8264	0.7635	0.8737	0.8113	0.9111	0.8531
0.35	Stargan	0.8647	0.8088	0.8909	0.8287	0.8294	0.7663	0.8774	0.8154	0.9129	0.8558
	Stylegan	0.8621	0.8066	0.8906	0.8281	0.8220	0.7582	0.8747	0.8122	0.9107	0.8529
0.4	Stargan	0.8656	0.8093	0.8917	0.8293	0.8262	0.7625	0.8761	0.8139	0.9128	0.8555
	Stylegan	0.8657	0.8111	0.8906	0.8285	0.8235	0.7596	0.8734	0.8109	0.9118	0.8542
0.45	Stargan	0.8632	0.8078	0.8915	0.8293	0.8296	0.7661	0.8787	0.8172	0.9137	0.8567
	Stylegan	0.8655	0.8092	0.8934	0.8315	0.8212	0.7584	0.8747	0.8124	0.9117	0.8541
0.5	Stargan	0.8641	0.8085	0.8900	0.8274	0.8295	0.7659	0.8777	0.8157	0.9122	0.8549
	Stylegan	0.8653	0.8092	0.8918	0.8297	0.8212	0.7576	0.8750	0.8131	0.9123	0.8549

Table 7.7: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the maximum saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in a random lung side from the original image from the dataset. p stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation).

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8629	0.8070	0.8864	0.8235	0.8216	0.7575	0.8594	0.7942	0.9098	0.8516
	Stylegan	0.8645	0.8090	0.8873	0.8241	0.8173	0.7536	0.8603	0.7956	0.9096	0.8514
0.1	Stargan	0.8648	0.8089	0.8863	0.8235	0.8177	0.7546	0.8616	0.7969	0.9107	0.8526
	Stylegan	0.8624	0.8073	0.8870	0.8242	0.8233	0.7595	0.8626	0.7982	0.9090	0.8506
0.15	Stargan	0.8654	0.8104	0.8882	0.8253	0.8233	0.7604	0.8669	0.8030	0.9100	0.8521
	Stylegan	0.8642	0.8080	0.8875	0.8244	0.8192	0.7558	0.8619	0.7973	0.9097	0.8512
0.2	Stargan	0.8638	0.8087	0.8885	0.8257	0.8235	0.7603	0.8686	0.8046	0.9099	0.8517
	Stylegan	0.8655	0.8087	0.8893	0.8263	0.8211	0.7579	0.8625	0.7982	0.9093	0.8511
0.25	Stargan	0.8651	0.8097	0.8874	0.8245	0.8278	0.7638	0.8726	0.8098	0.9111	0.8533
	Stylegan	0.8656	0.8093	0.8903	0.8278	0.8278	0.7626	0.8698	0.8067	0.9114	0.8536
0.3	Stargan	0.8639	0.8088	0.8907	0.8285	0.8275	0.7642	0.8732	0.8107	0.9113	0.8535
	Stylegan	0.8650	0.8094	0.8897	0.8265	0.8236	0.7599	0.8712	0.8083	0.9115	0.8537
0.35	Stargan	0.8647	0.8095	0.8905	0.8280	0.8249	0.7613	0.8701	0.8069	0.9105	0.8526
	Stylegan	0.8628	0.8077	0.8898	0.8269	0.8213	0.7582	0.8704	0.8073	0.9116	0.8539
0.4	Stargan	0.8641	0.8084	0.8900	0.8280	0.8243	0.7609	0.8717	0.8088	0.9108	0.8532
	Stylegan	0.8625	0.8068	0.8890	0.8261	0.8235	0.7606	0.8685	0.8049	0.9110	0.8532
0.45	Stargan	0.8640	0.8089	0.8913	0.8288	0.8256	0.7623	0.8712	0.8082	0.9114	0.8536
	Stylegan	0.8643	0.8080	0.8912	0.8287	0.8280	0.7649	0.8716	0.8085	0.9115	0.8536
0.5	Stargan	0.8624	0.8069	0.8911	0.8290	0.8236	0.7606	0.8715	0.8085	0.9116	0.8542
	Stylegan	0.8647	0.8090	0.8920	0.8293	0.8239	0.7600	0.8680	0.8043	0.9098	0.8520

Table 7.8: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering the minimum saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in a random lung side from the original image from the dataset. *p* stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation). The F-scores highlighted in blue, and the IoUs highlighted in red indicate the metrics where the proposed proposed salience augmentation achieved higher values compared to both the generic data augmentation techniques and the random version proposed by (Krinski et al., 2023). The underscored values show when training with the proposed salience augmentation achieved a P-value lower than 0.05 when compared with training with the augmentation proposed by (Krinski et al., 2023), and the null hypothesis was rejected.

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8668	0.8112	0.8915	0.8294	0.8250	0.7617	0.8747	0.8122	0.9116	0.8543
	Stylegan	0.8590	0.8032	0.8884	0.8263	0.8199	0.7567	0.8692	0.8057	0.9114	0.8539
0.1	Stargan	0.8673	0.8116	0.8896	0.8273	0.8233	0.7601	0.8721	0.8092	0.9119	0.8542
	Stylegan	0.8681	0.8127	0.8900	0.8278	0.8260	0.7625	0.8751	0.8125	0.9117	0.8544
0.15	Stargan	0.8644	0.8089	0.8893	0.8272	0.8286	0.7652	0.8774	0.8155	0.9116	0.8542
	Stylegan	0.8636	0.8083	0.8905	0.8278	0.8228	0.7592	0.8779	0.8162	0.9115	0.8538
0.2	Stargan	0.8670	0.8115	0.8914	0.8297	0.8298	0.7654	0.8787	0.8169	0.9125	0.8553
	Stylegan	0.8645	0.8091	0.8912	0.8295	0.8317	0.7677	**0.8794**	**0.8177**	0.9128	0.8555
0.25	Stargan	0.8649	0.8097	0.8906	0.8282	0.8273	0.7637	0.8759	0.8135	0.9117	0.8543
	Stylegan	0.8637	0.8078	0.8918	0.8298	0.8323	0.7686	**0.8793**	**0.8177**	0.9132	0.8563
0.3	Stargan	0.8670	0.8110	0.8914	0.8295	0.8278	0.7649	**0.8810**	**0.8195**	0.9126	0.8556
	Stylegan	0.8646	0.8094	0.8899	0.8279	0.8241	0.7603	0.8770	0.8152	0.9123	0.8549
0.35	Stargan	0.8656	0.8099	0.8888	0.8263	0.8248	0.7613	0.8761	0.8142	0.9119	0.8542
	Stylegan	0.8649	0.8096	0.8913	0.8294	0.8263	0.7618	0.8762	0.8144	0.9116	0.8542
0.4	Stargan	0.8641	0.8088	0.8928	0.8309	0.8301	0.7668	0.8776	0.8159	0.9132	0.8561
	Stylegan	0.8657	0.8092	0.8918	0.8300	0.8251	0.7612	0.8774	0.8158	0.9121	0.8549
0.45	Stargan	0.8629	0.8078	0.8928	0.8308	0.8271	0.7635	0.8785	0.8170	0.9130	0.8555
	Stylegan	0.8655	0.8094	0.8925	0.8307	0.8327	0.7689	0.8789	0.8173	0.9129	0.8557
0.5	Stargan	0.8640	0.8080	0.8890	0.8266	0.8238	0.7606	0.8763	0.8144	0.9120	0.8543
	Stylegan	0.8626	0.8066	0.8911	0.8288	0.8278	0.7648	0.8770	0.8152	0.9128	0.8556

Table 7.9: Results of the salience version of the data augmentation evaluation when unifying the training sets. The images were generated considering a random saliency distance between the image generated by the GAN and the lesion image from the dataset. The lesions are placed in a random lung side from the original image from the dataset. p stands for probability. The values highlighted in green show the data augmentation techniques in which the P-value achieved values lower than 0.05, and thus the null hypothesis was rejected (i.e., there is a statistical difference and the results achieved are better than without data augmentation).

p	**Augmentation**	**CC-CCII**		**MedSeg**		**MosMed**		**Ricord1a**		**Zenodo**	
		F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU	F-score	IoU
	No Augmentation	0.8636	0.8087	0.8881	0.8253	0.8185	0.7547	0.8599	0.7947	0.9096	0.8514
0.05	Stargan	0.8635	0.8084	0.8884	0.8256	0.8224	0.7592	0.8622	0.7974	0.9102	0.8519
	Stylegan	0.8620	0.8060	0.8882	0.8255	0.8223	0.7578	0.8579	0.7922	0.9090	0.8507
0.1	Stargan	0.8666	0.8102	0.8906	0.8284	0.8205	0.7566	0.8655	0.8013	0.9093	0.8511
	Stylegan	0.8626	0.8067	0.8869	0.8241	0.8214	0.7572	0.8605	0.7955	0.9093	0.8512
0.15	Stargan	0.8662	0.8109	0.8881	0.8258	0.8184	0.7550	0.8626	0.7980	0.9107	0.8525
	Stylegan	0.8663	0.8102	0.8909	0.8282	0.8242	0.7606	0.8683	0.8051	0.9103	0.8520
0.2	Stargan	0.8628	0.8067	0.8904	0.8283	0.8308	0.7670	0.8724	0.8094	0.9123	0.8548
	Stylegan	0.8671	0.8121	0.8907	0.8281	0.8250	0.7612	0.8732	0.8105	0.9113	0.8535
0.25	Stargan	0.8692	0.8129	0.8892	0.8269	0.8281	0.7649	0.8760	0.8139	0.9114	0.8539
	Stylegan	0.8646	0.8082	0.8888	0.8260	0.8236	0.7615	0.8754	0.8131	0.9115	0.8541
0.3	Stargan	0.8655	0.8098	0.8909	0.8283	0.8269	0.7637	0.8754	0.8133	0.9119	0.8548
	Stylegan	0.8642	0.8086	0.8902	0.8278	0.8270	0.7637	0.8764	0.8146	0.9112	0.8535
0.35	Stargan	0.8636	0.8087	0.8916	0.8293	0.8303	0.7672	0.8792	0.8178	0.9136	0.8566
	Stylegan	0.8659	0.8094	0.8901	0.8274	0.8260	0.7633	0.8752	0.8129	0.9122	0.8548
0.4	Stargan	0.8644	0.8090	0.8911	0.8284	0.8292	0.7648	0.8764	0.8143	0.9125	0.8553
	Stylegan	0.8638	0.8088	0.8916	0.8296	0.8266	0.7634	0.8761	0.8142	0.9117	0.8543
0.45	Stargan	0.8640	0.8077	0.8914	0.8297	0.8292	0.7652	0.8787	0.8170	0.9132	0.8562
	Stylegan	0.8685	0.8131	0.8915	0.8288	0.8293	0.7660	0.8768	0.8150	0.9120	0.8547
0.5	Stargan	0.8674	0.8126	0.8902	0.8276	0.8288	0.7651	0.8767	0.8147	0.9121	0.8548
	Stylegan	0.8669	0.8117	0.8909	0.8287	0.8240	0.7610	0.8756	0.8136	0.9122	0.8549