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 |