

Version	Folder	Date	Owner	Methodology	Overall MSE	Commit Hash	Takeaways
v1.0	v1.0	27/05/2025	Leo Kling	- ResNet50 (Places) - Hybrid Training: train and eval on synth, train and eval on real - synth dataset: leo(1,...,10), jjo(1,...,6, 9)		0.1075831652	46f9c2c7b4f8340b6d4a95a700b99debe69415e
v1.1	v1.1	28/05/2025	Leo Kling	- same architecture as v1.1 - synth dataset: leo(1,...,10), jjo(1,...,5, 9), milan (1,..., 4), markus (1,..., 10), david (1,..., 3)		0.0934	46f9c2c7b4f8340b6d4a95a700b99debe69415e
v1.2	v1.2	28/05/2025	Leo Kling	- same architecture as v1.1 - synth dataset: add jjo (6, 7, 8)		0.1144	46f9c2c7b4f8340b6d4a95a700b99debe69415e
v1.3	v1.3	30/05/2025	Jonathan Kron	- same architecture as v1.1 - split synth train data into hybrid and "Image Source Method (ISM) and Ray-Radiosity (RR)" rooms - train thrice (only hybrid, only non hybrid, combined)	hybrid: 0.1126242090344429 non-hybrid: 0.10782970064354 combined: 0.11138167232275009	41fda7d1c72031651795d9d32e3b437809d42acf	- hybrid simulation does not yield better results - 4.4% difference in mse, prob. in margin of error meaning no noticeable difference
v1.4	v1.4	30/05/2025	Jonathan Kron	- add more parameters to data augmentation (incl. random perspective, more aggressive crop and rotation)		0.09731775522	077e8028a92f1580e4ea6d2aa8b9b71d4b08a
v1.5	v1.5	31/05/2025	Jonathan Kron	- improved architecture, trained on combined synth data - ensemble of 3 models - single model size: 109.083 KB - ensemble of 3 size: 327.244 KB (over 250MB soft limit)	- en 1: 0.0923 - en 2: 0.0923 - en 3: 0.0930 - combined: 0.0925	39b007cc06b8c2d02ef530aaae55f5798a03d39	- improved architecture shows little improvement to v1.1 - no improvement by using an ensemble
v1.6	v1.6	01/06/2025	Leo Kling	- gradient accumulation (batch size 128 = 2^64) - higher initial LR with OneCycleLR - better early stopping with min_delta - gradient clipping - resnet18		0.1022	b75014b8cc119d3aa4b498ea570d4c0bfcc59f12
v1.7	v1.7	01/06/2025	Leo Kling	- same as v1.6 - resnet50		0.1283	4319b2706e11e280331d4a0ab1babe0a3af6e070
v1.8	v1.8	01/06/2025	Leo Kling	- same as v1.6 - progressive resolution (224px -> 520px -> 448px)		0.1114	53aa6171a8535aff33166823a33038094d85e1aa
v1.9	v1.9	05/06/2025	Leo Kling	- same architecture as v1.5 (without ensemble) - mix train and real data during training	0.2803 (best: 0.157)		be1c8ad48384de0b5c18062092df5da1eecd12f34
-	-	05/06/2025	David Klein	- no pretraining - tried U-Net architecture - calculated mean/std for our dataset			5ea2370fd20c7df53b9703eccc14d242abb2a07
v1.10	v1.10	06/06/2025	Leo Kling	- same architecture as v1.5 (without ensemble)		0.0919	8aa2af3bd8c614c1d110609259bcb06f4d8367160
v1.11	v1.11	06/06/2025	Leo Kling	- same architecture as v1.5 (without ensemble) - different pretrained backbones - DINOv2 - OpenCLIP (ViT-B-32) - OpenCLIP (ViT-L-14) - OpenCLIP (ConvNext_base_w) - EfficientNet (b4)			f3feb558c5a8117fcd0b994712657d6936bb13691
v1.12		06/06/2025	Jonathan Kron	- same architecture as v1.4 - different pretrained backbones - resnet50_places365 - efficientnet_b4 - convnext_base - densenet169	- resnet50_places365: 0.0973177552223 - efficientnet_b4: 0.1025751190595627 - convnext_base: 0.10787791758775711 - densenet169: 0.12339576333761215	87750343499e2372c4f854b52b6da3b875a4306c	- cannot beat resnet 50 - not better than resnet50-places365 (haven't looked into changes to the model by leo and jonathan yet, will update)
v1.13	v1.13	09/06/2025	Philipp Wendt	resnext50_32x4d		0.1233	500037d50222fba6213c3d0ba802fac766bd3629
v1.14	v1.14	06/10/2025	Milan Jezovsek	- freshly branched from main and then adjusted the architecture based on claudes suggestion - therefore its based on v1.0 i think - the model allegedly has spatial attention now ??? sure daddy claudes, whatever u say.	"overall": { "mse": 0.09930435568094254, "mae": 0.3151259362238255, "mase": 0.21608534070587168, "r2": -0.27137336134910583 }	d55c6ac42e650d8b20a376ccdf9b77d84ae3f444	- maybe combinable with other improvements ? - will test soon
v1.15	v1.15	11.06.2025	Milan Jezovsek	- based on v1.14 - spatial attention all the way - only implemented half of it before	"overall": { "mse": 0.0975494384765625, "mae": 0.3123290548068855, "mase": 0.22261279621395674, "r2": -0.0375484635939312 }	93ffa9268dc871353328e1fe0498ac1bf40b798	- same as before
v1.16	v1.16	12.06.25	David Klein	- U-Net with improved bottleneck and early dropout - added function to save best synthetic model instead of the last epoch	"overall": { "mse": 0.09463762491941452, "mae": 0.3076322884864567, "mase": 0.20528370141983032, "r2": -0.24498794972896576 }	2fb32587093b8acd1db66b99457fd825f91tb80e6	- test (2) i was able to achieve so far - not great not terrible
v1.10.1	v1.10.1	29.06.25	David Klein	- Architecture from v1.10 (ResNet50 places365) - Did a normal run + one run using real data only and one run using synth data only.			25396c9f9db022a874d5e8634ce9f0902af360c
v1.4.1		28.06.25	Philipp Wendt	- based on 1.4 - freeze backbone - train on excl. synth - val on excl. synth - test on real - later early stopping - more regulation - gradient clipping	"overall": { "mse": 1.0949086977005005, "mae": 1.0463310550556545, "mase": 0.7197692394256592, "r2": -0.26217177510261536 }	e70f24496180807da420f66e2484d009cdf314470	- bad - worst in low freqs