

## Appendix A. ANOVA test results

Pruning ratio	0%	25%	50%	65%	75%	85%	90%	95%	99%
DeepLIFT vs. HYDRA (Unstructured)	1.03 e-01	9.53 e-02	1.71 e-03	3.60 e-04	1.57 e-06	1.64 e-04	2.43 e-02	3.54 e-02	1.86 e-01
DeepLIFT vs. HYDRA (Structured)	1.48 e-02	3.60 e-02	1.18 e-05	1.24 e-05	6.91 e-04	1.17 e-02	8.99 e-02	8.87 e-03	5.80 e-02
Unstructured vs. Structured (DeepLIFT)	6.52 e-01	2.35 e-05	3.70 e-11	4.25 e-11	4.20 e-10	1.13 e-09	5.46 e-08	1.09 e-01	3.99 e-01
Unstructured vs. Structured (HYDRA)	9.00 e-04	1.11 e-05	1.17 e-08	3.05 e-09	4.44 e-10	6.27 e-07	1.80 e-05	1.83 e-03	2.42 e-01

Table 1. ANOVA test p-values of mAP on colored COCO images

Pruning ratio	0%	25%	50%	65%	75%	85%	90%	95%	99%
DeepLIFT vs. HYDRA (Unstructured)	1.28 e-05	5.61 e-02	7.16 e-03	1.44 e-01	3.96 e-01	7.69 e-02	4.37 e-03	2.05 e-01	6.64 e-01
DeepLIFT vs. HYDRA (Structured)	5.13 e-01	1.81 e-06	2.80 e-06	1.37 e-02	4.21 e-02	6.36 e-02	2.06 e-01	7.33 e-01	2.15 e-01
Unstructured vs. Structured (DeepLIFT)	1.75 e-04	4.13 e-19	4.31 e-21	1.07 e-24	2.76 e-26	2.02 e-22	6.17 e-21	1.85 e-16	1.68 e-14
Unstructured vs. Structured (HYDRA)	8.70 e-01	2.76 e-17	1.03 e-21	8.97 e-26	3.45 e-25	1.30 e-21	3.55 e-21	2.36 e-20	1.56 e-19

Table 2. ANOVA test p-values of inference time on colored COCO images

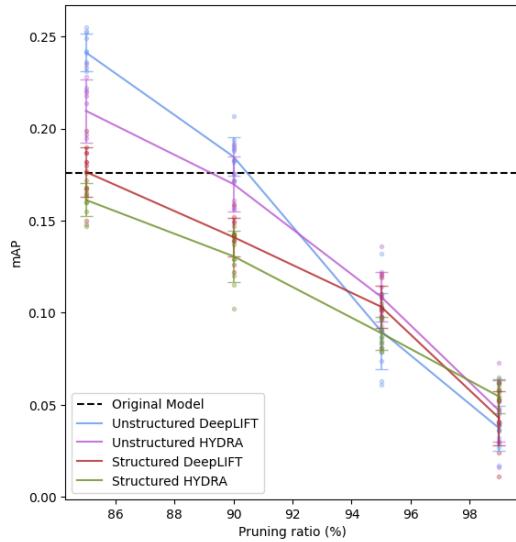
Pruning ratio	0%	25%	50%	65%	75%	85%	90%	95%	99%
Greyscale vs color (Unstructured DeepLIFT)	1.13 e-23	1.74 e-15	1.06 e-13	1.18 e-11	2.53 e-12	2.77 e-10	1.75 e-05	9.25 e-02	5.06 e-01

Table 3. ANOVA test p-values of mAP on greyscale COCO images

Pruning ratio	0%	25%	50%	65%	75%	85%	90%	95%	99%
Greyscale vs color (Unstructured DeepLIFT)	6.11 e-09	2.07 e-07	1.14 e-05	4.42 e-04	2.08 e-01	5.59 e-01	2.62 e-01	3.98 e-02	4.82 e-01

Table 4. ANOVA test p-values of inference time on greyscale COCO images

## Appendix B. Figures



*Figure 6.* Zoomed in high pruning ratio section of Fig. 3a



*Figure 7.* Differences between inference performance on COCO image 22192: pruning ratio increases from top to bottom (0%, 25%, 50%, 65%, 75%, 85%, 90%, 95%, 99%); experiment configuration changes from left to right (Unstructured DeepLIFT, Unstructured HYDRA, Structured DeepLIFT, Structured HYDRA, Grey Unstructured DeepLIFT). Images below are set up in the same order



Figure 8. Differences between inference performance on the COCO image 17627



Figure 9. Differences between inference performance on the COCO image 19221



*Figure 10.* Differences between inference performance on the COCO image 71711



Figure 11. Differences between inference performance on the COCO image 174482