Method	Total FLOPs	A6000 minutes per trial					
		ASCADv1 (fixed)	ASCADv1 (random)	DPAv4 (Zaid version)	AES-HD	OTiAiT	OTP
Supervised training†: t_{sup}	$C_{sup} := \Theta(Nn_{sup}(C_F + C_B))$	0.64 ± 0.03	1.27 ± 0.02	0.67 ± 0.03	0.52 ± 0.02	0.062 ± 0.005	0.071 ± 0.004
GradVis	$C_{sup} + \Theta(N(C_F + C_B))$	$t_{sup} + 0.0655 \pm 0.0005$	$t_{sup} + 0.2582 \pm 0.0005$	$t_{sup} + 0.0106 \pm 0.0001$	$t_{sup} + 0.0379 \pm 0.0002$	$t_{sup} + 0.0080 \pm 0.0001$	$t_{sup} + 0.0639 \pm 0.0005$
Saliency	$C_{sup} + \Theta(N(C_F + C_B))$	$t_{sup} + 0.075 \pm 0.003$	$t_{sup} + 0.2930 \pm 0.0007$	$t_{sup} + 0.0111 \pm 0.0002$	$t_{sup} + 0.048 \pm 0.003$	$t_{sup} + 0.009 \pm 0.001$	$t_{sup} + 0.081 \pm 0.004$
Input $*$ Grad	$C_{sup} + \Theta(N(C_F + C_B))$	$t_{sup} + 0.074 \pm 0.002$	$t_{sup} + 0.2937 \pm 0.0006$	$t_{sup} + 0.01130 \pm 0.00007$	$t_{sup} + 0.047 \pm 0.002$	$t_{sup} + 0.00870 \pm 0.00009$	$t_{sup} + 0.081 \pm 0.005$
LRP	$C_{sup} + \Theta(N(C_F + C_B))$	$t_{sup} + 0.075 \pm 0.002$	$t_{sup} + 0.2936 \pm 0.0007$	$t_{sup} + 0.014 \pm 0.002$	$t_{sup} + 0.047 \pm 0.002$	$t_{sup} + 0.011 \pm 0.003$	$t_{sup} + 0.079 \pm 0.004$
m-Occlusion	$C_{sup} + \Theta(NC_F T)$	$t_{sup} + 0.1200 \pm 0.0006$	$t_{sup} + 0.941 \pm 0.001$	$t_{sup} + 0.0929 \pm 0.0002$	$t_{sup} + 0.1134 \pm 0.0005$	$t_{sup} + 0.0174 \pm 0.0001$	$t_{sup} + 0.2456 \pm 0.0006$
2nd-order m-Occlusion†	$C_{sup} + \Theta(NC_F T^2)$	$t_{sup} + 18.03 \pm 0.09$	$t_{sup} + 374 \pm 1$	$t_{sup} + 138.6 \pm 0.2$	$t_{sup} + 34.28 \pm 0.02$	$t_{sup} + 4.903 \pm 0.005$	$t_{sup} + 79.9 \pm 0.5$
OccPOI*	$C_{sup} + \Theta(NC_F T)$	$t_{sup} + 1.273 \pm 0.008$	$t_{sup} + 28.6 \pm 0.3‡$	$t_{sup} + 0.1225 \pm 0.0008$	$t_{sup} + 14.1 \pm 0.1‡$	$t_{sup} + 0.041 \pm 0.002$	$t_{sup} + 0.049 \pm 0.003$
OccPOI-Extended*	$C_{sup} + O(NC_F T^2)$	$t_{sup} + 21 \pm 5$	$\geq t_{sup} + 114 \pm 2‡$	$t_{sup} + 7.1 \pm 0.3$	$\geq t_{sup} + 42 \pm 14‡$	$t_{sup} + 1.14 \pm 0.09$	$t_{sup} + 0.58 \pm 0.07$
OccPOI-Extended* (reported, on GTX 970)		1,278	13,662	n/a	2,694	n/a	n/a
ALL (Ours)†	$\Theta(Nn_{all}(C_F + C_B))$	6.06 ± 0.36	8.4 ± 0.6	2.6 ± 0.5	4.2 ± 0.4	2.5 ± 0.5	2.0 ± 0.1

Table 1: A comparison of the computational cost of the considered methods. We denote by C_F and C_B the cost of a forward and backward pass through a neural net respectively, N the dataset size, n_{sup} and n_{all} the number of epochs for supervised learning and adversarial leakage localization respectively, and T the data dimensionality. All neural net attribution methods require first doing supervised training; we report their runtime as $t_{sup} + t_{resid}$ where t_{sup} denotes the time to do supervised training (listed in top row) and t_{resid} denotes the time to run the method given the trained neural net. Parametric statistical methods (omitted) are done on the CPU and take negligible time compared to the deep learning methods. Runtimes are reported as mean $\pm$ std. dev. of 5 total runtime measurements, with metrics, logging and validation disabled. †Estimated by linearly extrapolating the runtime of 100 minibatches. *All passes through the dataset must be run *sequentially*. Thus, the runtime may be significantly longer than other methods which have similar total FLOPs but are more amenable to parallelism. ‡Due to time constraints we ran these algorithms for only 2 random seeds. Additionally, we cut OccPOI-extended short after it exceeded $10\times$ the runtime of ALL.