0.0023 0.355 ± 0.007 0.328 ± 0.003 0.45 ± 0.02 0.003 0.035 ± 0.003 0.03		$\mathrm{KL}_{0.1}$	kNN	$\ell$ -Trust	MNIST \ell_FRMSE	$\mathrm{KL}_{100}$	Spear	MSE
0.311 ± 0.005	$0.169 \pm 0.02$	3	$0.356 \pm 0.007$	$0.938 \pm 0.003$	$\textbf{6.2} \pm \textbf{1.2} \\ {}_{11} \pm {}_3$	$2.2e-07 \pm 3e-08$	$0.4 \pm 0.02$	$0.0357 \pm 0.0003$
0.4176 ± 0.0003	$0.094 \pm 0.0$	03	$0.322 \pm 0.01$ $0.311 \pm 0.005$	$0.95 \pm 0.004$ $0.925 \pm 0.002$	$8.91 \pm 0.05$	$egin{array}{ll} egin{array}{ll} egi$	$0.44 \pm 0.03$	$0.03701 \pm 8e-05$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$0.1719 \pm 0.0$	0051	$\textbf{0.4162}\pm0.0012$	$0.9524 \pm 0.0004$	$8.4 \pm 0.4$	$3.35e-07 \pm 2.1e-08$	$0.36 \pm 0.007$	$0.03213\pm7\mathrm{e}\text{-}05$
Fight   Figh	$0.19 \pm 0.005$	2 2	$0.4013 \pm 0.0003$	$\begin{array}{c} \textbf{0.94638} \pm \textbf{0.00051} \\ \textbf{0.0443} \pm \textbf{0.0005} \end{array}$		$4.1e-07 \pm 1e-08$ $9.9e-07 \pm 4e-08$	$0.3377 \pm 0.0042$	NaN NaN
FashionMNIST   Fash	0.16276402	$\pm 2.2e-07$	$0.117955 \pm 1.1e-06$	$0.7456815 \pm 5e-07$	$6.5830853 \pm 8e-07$	1.636274e-07 ±		$0.055636764 \pm 8e-09$
ENN   E-Trust   E-RMSE   KL <sub>100</sub>   Spear   NL <sub></sub>				Fash	${ m nionMNIST}$			
2 (37 ± 0.03         0.971 ± 0.003         7 ± 1         9.66-08 ± 1.1e-08         0.75 ± 0.03         0           0.34 ± 0.02         0.366 ± 0.002         1.4 ± 2         1.1e-07 ± 2e-08         0.55 ± 0.02         0.04         0.06         0.05         0.06         0.02         0.06         0.00         0.06	$\mathrm{KL}_{0.1}$			$\ell ext{-Trust}$	$ heta ext{-} ext{RMSE}$	$\mathrm{KL}_{100}$	Spear	MSE
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$0.0407 \pm 0$	0.0052	$0.37 \pm 0.03$		7 ± 1	$9.6  ext{e-}08 \pm 1.1  ext{e-}08$	$0.75 \pm 0.03$	$0.02562 \pm 0.00013$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$0.069 \pm 0.0$	)31		$0.9666 \pm 0.002$	$14 \pm 2$	$1.6e-07 \pm 1e-07$	$0.66 \pm 0.12$	$0.0253 \pm 0.0003$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\boldsymbol{0.049 \pm 0}$	.01		$0.9686 \pm 0.00073$	$9.569 \pm 0.081$	$1.1e-07 \pm 2e-08$	$\boldsymbol{0.82\pm0.02}$	$0.0261 \pm 0.0002$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$0.091 \pm 0$	.004		$0.9749\pm0.0003$	$13.2\pm0.6$	$5.5e-07 \pm 3e-08$	$0.58 \pm 0.02$	$0.0234 \pm 0.0001$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$0.0947 \pm 0.0947 \pm 0.000$	0.0021		$0.971 \pm 0.001$	$4.416 \pm 0.022$	$3.01\text{e-}07 \pm 1\text{e-}08$	$0.603 \pm 0.002$	NaN
k NN         FBMC           0.0023         0.2455 ± 0.0009         0.9084 ± 0.0006         6.4 ± 0.4         1.1e-07 ± 2e-08         0.847 ± 0.011           0.0023         0.2215 ± 0.0009         0.9084 ± 0.0006         6.4 ± 0.4         1.1e-07 ± 2e-08         0.847 ± 0.011           0.0221 ± 0.0002         0.9037 ± 0.0007         7.37 ± 0.06         7.75 ± 0.08         0.818 ± 0.012           0.0222 ± 0.0003         0.9043 ± 0.0003         4.7 ± 0.7         2e-07 ± 8e-08         0.818 ± 0.012           0.02 ± 0.237 ± 0.0001         0.8946 ± 0.001         1.84 ± 0.02         1.3e-07 ± 2e-08         0.814 ± 0.02           0.02 ± 0.237 ± 0.0001         0.8946 ± 0.001         2.44 ± 0.03         1.3e-07 ± 2e-08         0.81 ± 0.02           422 ± 3c-09         0.15290488 ± 3e-07         0.844 ± 0.03         1.3e-07 ± 2e-08         0.81 ± 0.02           A12 ± 0.001         0.8946 ± 0.001         1.994344 ± 1.e-07         1.1969331e-07 ± 9e-14         0.91108369 ± 2e-08           KL1 <sub>0.1</sub> kNN         F.Trust         F.RMISE         KL <sub>1</sub> 0.0         1.3e-07 ± 2e-08         0.54 ± 0.02           0.09 ± 0.03         0.464 ± 0.01         0.956 ± 0.007         0.956 ± 0.007         0.959 ± 0.001         1.3e-07 ± 2e-07         1.4e-07 ± 2e-08         0.55 ± 0.01	$0.072 \pm 0.052010$	1.1		$0.96872 \pm 0.0006$ $0.91678396 \pm 5e-08$	$39 \pm 0.2$ <b>4.5253376</b> $\pm$ 4e-07		$0.56 \pm 0.03$ 0.88169565 $\pm$ 1e-08	NaN $0.046092747 \pm 2e-09$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					PBMC			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\mathrm{KL}_{0.1}$		kNN	$\ell ext{-Trust}$	$\ell ext{-RMSE}$	$\mathrm{KL}_{100}$	Spear	MSE
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$0.0163~\pm$	0.0023	$0.2435 \pm 0.0009$	$0.9084 \pm 0.0006$	$6.4 \pm 0.4$	$1.1\text{e-}07 \pm 2\text{e-}08$	$0.847 \pm 0.011$	$0.3703 \pm 0.0011$
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$0.0653 \pm 0$	.0032	$0.221 \pm 0.003$	$0.902 \pm 0.002$	$15\pm 8$	$1.98e-07 \pm 4.3e-08$	$0.72 \pm 0.09$	$0.371 \pm 0.002$
C.2412 $\pm$ 0.0005         0.9043 $\pm$ 0.0003         4.7 $\pm$ 0.7         2e-07 $\pm$ 8e-08         0.818 $\pm$ 0.012           0.21599 $\pm$ 0.00051         0.8858 $\pm$ 0.0003         3.84 $\pm$ 0.12         1.61e-07 $\pm$ 6.2e-08         0.84 $\pm$ 0.02           1.26-09         0.2074 $\pm$ 0.001         0.8964 $\pm$ 0.0003         3.84 $\pm$ 0.12         1.61e-07 $\pm$ 6.2e-08         0.84 $\pm$ 0.02           1.20-1         kNN $-7$ Trust $+7$ 1943945 $\pm$ 4.1e-07         1.1969531e-07 $\pm$ 9e-14         0.91108369 $\pm$ 2e-08           1.047 $\pm$ 0.002         0.464 $\pm$ 0.01         0.956 $\pm$ 0.002         17.6 $\pm$ 1.2         1.4e-07 $\pm$ 3.1e-08         0.683 $\pm$ 0.091           1.056 $\pm$ 0.03         0.422 $\pm$ 0.02         0.956 $\pm$ 0.007         0.969 $\pm$ 0.00         0.956 $\pm$ 0.007         0.969 $\pm$ 0.00         0.956 $\pm$ 0.00         0.956 $\pm$ 0.00         0.956 $\pm$ 0.00         0.969 $\pm$ 0.00         0.956 $\pm$ 0.00         0.969 $\pm$ 0.00         0.956 $\pm$ 0.00         0.969 $\pm$ 0.00         0.959 $\pm$ 0.00         0.	$0.022 \pm 0.0$	002	$0.23222 \pm 0.00092$	$0.9037 \pm 0.0007$	$7.37 \pm 0.06$	$\textbf{7.5e-08} \pm \textbf{1e-09}$	$\boldsymbol{0.871 \pm 0.011}$	$0.3731 \pm 0.0008$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$0.03 \pm 0.0$	800	$0.2412 \pm 0.0005$	$0.9043\pm0.0003$	$4.7\pm0.7$	$2e-07 \pm 8e-08$	$0.818 \pm 0.012$	$0.3709 \pm 0.0003$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$0.027 \pm 0$	.004	$0.21599 \pm 0.00051$	$0.8858 \pm 0.0003$	$\boldsymbol{3.84 \pm 0.12}$	$1.61e-07 \pm 6.2e-08$	$0.84 \pm 0.02$	NaN
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$0.038 \pm 0.$	002		$0.8946 \pm 0.001$		-		NaN
$47 \pm 0.009$ $6.464 \pm 0.01$ $6.956 \pm 0.002$ $1.76 \pm 1.2$ $1.4e-07 \pm 3.1e-08$ $0.683 \pm 0.091$ $47 \pm 0.009$ $0.464 \pm 0.01$ $0.956 \pm 0.002$ $1.76 \pm 1.2$ $1.4e-07 \pm 3.1e-08$ $0.55 \pm 0.091$ $5 \pm 0.03$ $0.464 \pm 0.01$ $0.956 \pm 0.007$ $0.956 \pm 0.007$ $0.956 \pm 0.007$ $0.956 \pm 0.002$ $0.76 \pm 0.00$ $0.55 \pm 0.05$ $6 \pm 0.01$ $0.5048 \pm 0.007$ $0.9561 \pm 0.002$ $1.32 \pm 0.2$ $1.4e-07 \pm 2e-08$ $0.72 \pm 0.02$ $6 \pm 0.01$ $0.5048 \pm 0.004$ $0.946 \pm 0.002$ $1.32 \pm 0.2$ $1.4e-07 \pm 8e-09$ $0.594 \pm 0.05$ $6 \pm 0.013$ $0.4853 \pm 0.003$ $0.946 \pm 0.002$ $1.335 \pm 0.05$ $1.4e-07 \pm 8e-09$ $0.594 \pm 0.05$ $6 \pm 0.010$ $0.4853 \pm 0.003$ $0.944 \pm 0.002$ $0.944 \pm 0.002$ $0.944 \pm 0.002$ $0.944 \pm 0.002$ $6 \pm 0.010$ $0.4895 \pm 0.003$ $0.944 \pm 0.03$	0.0122704	$122\pm3\mathrm{e}{-09}$		$0.82435367 \pm$			$\overline{0.91108369 \; \pm}$	$9.59559689 \pm 3e-08$
47 ± 0.009 $0.464 \pm 0.01$ $0.956 \pm 0.002$ $17.6 \pm 1.2$ $1.4e-07 \pm 3.1e-08$ $0.683 \pm 0.091$ $0.\pm 0.03$ $0.42 \pm 0.02$ $0.943 \pm 0.007$ $36 \pm 9$ $1.2e-07 \pm 1e-07$ $0.5 \pm 0.1$ $56 \pm 0.004$ $0.47 \pm 0.007$ $0.963 \pm 0.0013$ $1.98 \pm 0.3$ $1.5e-07 \pm 1e-07$ $0.5 \pm 0.01$ $66 \pm 0.01$ $0.5048 \pm 0.004$ $0.963 \pm 0.002$ $13.2 \pm 0.2$ $2.14e-07 \pm 6.3e-08$ $0.72 \pm 0.02$ $68 \pm 0.003$ $0.4853 \pm 0.004$ $0.946 \pm 0.002$ $13.35 \pm 0.05$ $1.6e-07 \pm 8e-09$ $0.599 \pm 0.01$ $67 \pm 0.006$ $0.4697 \pm 0.0031$ $0.934 \pm 0.004$ $2.98 \pm 0.2$ $1.81e-07 \pm 2.3e-08$ $0.494 \pm 0.02$ $61 \pm 0.006$ $0.4697 \pm 0.0031$ $0.934 \pm 0.004$ $2.98 \pm 0.2$ $1.81e-07 \pm 2.3e-08$ $0.494 \pm 0.02$ $61 \pm 0.006$ $0.16197602 \pm 2.1e-07$ $0.8143107 \pm 3e-07$ $14.1533186 \pm 1e-06$ $2.501011e-07 \pm 2e-13$ $0.6426984 \pm 2e-0$ $61 \pm 0.006$ $0.345 \pm 0.002$ $1.7 \pm 2$ $1.4.1533186 \pm 1e-06$ $2.501011e-07 \pm 2e-13$ $0.6426984 \pm 2e-0$ $0.345 \pm 0.007$ $1.7 \pm 2$ $1.4.1533186 \pm 1e-06$ $2.3e-07 \pm 1e-07$ $0.71 \pm 0.04$ $0.345 \pm 0.0008$ $0.94463 \pm 0.0005$ $1.7 \pm 2$ $0.74 \pm 0.003$ $0.74 \pm 0.003$ $0.3967 \pm 0.0004$ $0.938 \pm 0.0002$ $0.94863 \pm 0.0002$ $0.94663 \pm 0.0002$ $0.94663 \pm 0.0003$ $0.94663 \pm 0.003$ $0.94663 $		$\mathrm{KL}_{0.1}$	kNN	$\ell$ -Trust	$\ell$ -RMSE	$ m KL_{100}$	Spear	MSE
56 ± 0.03 $0.42 \pm 0.02$ $0.943 \pm 0.007$ $36 \pm 9$ $2.8e-07 \pm 1e-07$ $0.5 \pm 0.1$ 56 ± 0.004 $0.47 \pm 0.007$ $0.9501 \pm 0.0003$ $1.9.8 \pm 0.3$ $1.5e-07 \pm 2e-08$ $0.72 \pm 0.02$ $66 \pm 0.01$ $0.5048 \pm 0.004$ $0.963 \pm 0.002$ $13.2 \pm 0.2$ $2.14e-07 \pm 6.3e-08$ $0.72 \pm 0.02$ $66 \pm 0.01$ $0.5048 \pm 0.004$ $0.946 \pm 0.002$ $13.2 \pm 0.2$ $2.14e-07 \pm 6.3e-08$ $0.599 \pm 0.01$ $67 \pm 0.006$ $0.4697 \pm 0.0031$ $0.946 \pm 0.002$ $13.35 \pm 0.05$ $1.6e-07 \pm 8e-09$ $0.599 \pm 0.01$ $6.170186 \pm 6e-08$ $0.16197602 \pm 2.1e-07$ $0.8143107 \pm 3e-07$ $14.1533186 \pm 1e-06$ $1.81e-07 \pm 2e-13$ $0.494 \pm 0.02$ $88 \pm 0.006$ $0.16197602 \pm 2.1e-07$ $0.8143107 \pm 3e-07$ $14.1533186 \pm 1e-06$ $2.501011e-07 \pm 2e-13$ $0.6426984 \pm 2e-07$ $88NN$ $e-RMSE$ $e-RMSE$ $e-RMSE$ $e-RMSE$ $e-RMSE$ $e-RMSE$ $e-RMSE$ $e-RMSE$ $e-RMSE$ $0.3945 \pm 0.0072$ $0.944 \pm 0.002$ $17 \pm 2$ $2.3e-07 \pm 1e-07$ $0.71 \pm 0.04$ $0.361 \pm 0.008$ $0.9463 \pm 0.0005$ $10 \pm 0.13$ $3e-07 \pm 3e-08$ $0.74 \pm 0.02$ $0.387 \pm 0.004$ $0.9463 \pm 0.0003$ $12.48 \pm 0.23$ $3e-07 \pm 3e-08$ $0.74 \pm 0.03$ $0.387 \pm 0.004$ $0.938 \pm 0.003$ $0.924 \pm 0.03$ $0.387 \pm 0.004$ $0.938 \pm 0.003$ $0.939 \pm 0.003$ $0.938 \pm 0.004$	GeomAE	$0.047 \pm 0$						
$56 \pm 0.004$ $0.47 \pm 0.007$ $0.9561 \pm 0.0013$ $19.8 \pm 0.3$ $1.5e-07 \pm 2e-08$ $0.72 \pm 0.02$ $6 \pm 0.01$ $0.5048 \pm 0.004$ $0.963 \pm 0.002$ $13.2 \pm 0.2$ $2.14e-07 \pm 6.3e-08$ $0.55 \pm 0.05$ $8 \pm 0.003$ $0.4853 \pm 0.001$ $0.946 \pm 0.002$ $13.35 \pm 0.05$ $1.6e-07 \pm 8e-09$ $0.599 \pm 0.01$ $87 \pm 0.006$ $0.4697 \pm 0.0031$ $0.946 \pm 0.004$ $29.8 \pm 0.2$ $1.81e-07 \pm 2.3e-08$ $0.494 \pm 0.02$ $8170186 \pm 6e-08$ $0.16197602 \pm 2.1e-07$ $0.8143107 \pm 3e-07$ $14.1533186 \pm 1e-06$ $2.501011e-07 \pm 2e-13$ $0.6426984 \pm 2e-0$ $8NN$ $4.7$ Inst $8NN$ $4.7$ Inst $8NN$ $4.7$ Inst $8NN$ $4.7$ Inst $8NN$ $4.7$ Inst $4$		$0.09 \pm 0.03$				$2.8e-07 \pm 1e-0$		$0.71 \pm 0.02$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	TopoReg	$\boldsymbol{0.056 \pm 0}$	04		13			$0.724 \pm 0.004$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	ParametricUMAP	$0.066 \pm 0.0$						$0.671\pm0.006$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		$0.058 \pm 0.0$				.05		NaN
kNN $\ell$ -Trust $\ell$ -RMSE KL <sub>100</sub> Spear $\ell$ -RMSE $\ell$ -RMSE KL <sub>100</sub> Spear $\ell$ -RMSE $\ell$ -R		$0.057 \pm 0.0$ $0.08170186$	6e-08	$0.93 \\ 0.81$		$1 \pm 1e-06$	.13	
kNN $\ell$ -Trust $\ell$ -RMSE KL <sub>100</sub> Spear 0.3945 ± 0.0072 <b>0.943 ± 0.002</b> 17 ± 2 <b>2.3e-07 ± 1e-07</b> 0.71 ± 0.04 0.361 ± 0.008 0.939 ± 0.003 24 ± 8 2.7e-07 ± 6e-08 0.64 ± 0.12 0.353 ± 0.003 0.924 ± 0.003 19.32 ± 0.06 2.81e-07 ± 3.1e-08 0.734 ± 0.021 0.4068 ± 0.0006 0.94653 ± 0.00053 10 ± 0.13 3e-07 ± 2e-07 0.72 ± 0.04 0.387 ± 0.002 12.48 ± 0.23 3e-07 ± 1.2e-08 0.516 ± 0.05								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\mathrm{KL}_{0.1}$	1	kNN	$\ell$ -Trust	$\ell ext{-RMSE}$	$\mathrm{KL}_{100}$	Spear	MSE
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$0.11 \pm 0.0$		$0.3945 \pm 0.0072$	$0.943\pm0.002$	$17 \pm 2$	$2.3\mathrm{e-}07\pm1\mathrm{e-}07$	$0.71 \pm 0.04$	$0.338 \pm 0.004$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$0.14 \pm 0.0$		$0.361 \pm 0.008$	$0.939 \pm 0.003$	$24 \pm 8$	$2.7e-07 \pm 6e-08$	$0.64 \pm 0.12$	$0.3332\pm0.0022$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$0.124 \pm 0$		$0.353 \pm 0.003$	$0.924 \pm 0.003$	$19.32\pm0.06$	$2.81e-07 \pm 3.1e-08$	$0.734 \pm 0.021$	$0.3431 \pm 0.0004$
$0.387 \pm 0.002$ $0.93717 \pm 0.00033$ $12.48 \pm 0.23$ $3e-07 \pm 3e-08$ $0.74 \pm 0.03$ $0.38717 \pm 0.0038$ $\pm 0.002$ $27.09 \pm 0.11$ $2.2e-07 \pm 1.2e-08$ $0.516 \pm 0.05$	+ 860.0		$0.4068 \pm 0.0006$	$0.94653 \pm 0.00053$	$10\pm0.13$	$3e-07 \pm 2e-07$	$0.72 \pm 0.04$	$0.3266 \pm 0.0005$
$0.3967 \pm 0.0041$ $0.938 \pm 0.002$ $27.09 \pm 0.11$ $2.2e-07 \pm 1.2e-08$ $0.916 \pm 0.05$	0.099 ± (	1	$0.387 \pm 0.002$	$0.93717 \pm 0.00033$	$12.48 \pm 0.23$	$3e-07 \pm 3e-08$	$0.74 \pm 0.03$	NaN
	0.0977		$0.3967 \pm 0.0041$	,	$27.09 \pm 0.11$		-	