Table 1: SSL Comparison: MNIST: Average (standard deviation) classification accuracy over 100 trials.

# Labels per class	1	2	3	4	5
High order Laplace learningN $=50$ m $=0.1$	36.8 (4.7)	44.1 (4.5)	48.0 (3.6)	51.0 (3.2)	5
High order Laplace LearningN $= 100$ m $= 0.1$	33.7(3.9)	40.8(4.1)	44.9(3.6)	47.9(3.1)	50
High order Laplace learning $N=150$ $\mathrm{m}=0.1$	31.5(3.6)	37.8 (3.8)	41.7(3.2)	44.7(3.0)	4'
High order Laplace LearningN $= 200$ m $= 0.1$	29.9(3.4)	35.7(3.5)	39.5(3.0)	42.4(2.9)	44
High order Laplace LearningN $= 250$ m $= 0.1$	28.8(3.1)	34.2(3.3)	37.8(3.0)	40.6(2.7)	42
High order Laplace LearningN $= 300$ m $= 0.1$	28.1 (3.0)	33.1 (3.1)	36.7(2.8)	39.3(2.7)	4
High order Laplace LearningN $= 50$ M $= 0.2$	37.3 (4.8)	44.6 (4.5)	48.5 (3.6)	51.5 (3.2)	53
High order Laplace learning $N=100$ $M=0.2$	34.5 (4.0)	41.7 (4.2)	45.9 (3.6)	48.9 (3.1)	5.
High order Laplace learning $N=150$ m $=0.2$	32.3 (3.7)	38.9 (3.9)	42.9 (3.3)	45.9 (3.0)	48
High order Laplace learning $N = 200M = 0.2$	30.8 (3.5)	36.9 (3.6)	40.7 (3.1)	43.8 (2.9)	46
High order Laplace learning $N=250 \text{M}=0.2$	29.7 (3.3)	35.3 (3.4)	39.1 (3.1)	42.0 (2.8)	44
HIGH ORDER LAPLACE LEARNINGN = 300M = 0.2	29.0 (3.2)	34.2 (3.3)	38.0 (2.9)	40.7(2.7)	42
HIGH ORDER LAPLACE LEARNINGN = 50M = 0.30000000000000000000000000000000000	37.8 (4.9)	45.1 (4.6)	49.0 (3.5)	51.9 (3.2)	53 52
HIGH ORDER LAPLACE LEARNINGN = $100M = 0.30000000000000000000000000000000000$	35.3 (4.1) $33.3 (3.9)$	42.6 (4.3)	46.8 (3.6) 44.1 (3.3)	49.9 (3.1) 47.1 (3.0)	49
HIGH ORDER LAPLACE LEARNINGN = 130M = 0.30000000000000000000000000000000000	31.8 (3.7)	39.9 (4.0) $38.0 (3.7)$	42.0 (3.2)	47.1 (3.0) $45.1 (2.9)$	47
High order Laplace learning $N = 250M = 0.30000000000000000000000000000000000$	30.7 (3.4)	36.6 (3.6)	42.0 (3.2) $40.5 (3.2)$	43.4 (2.8)	45
HIGH ORDER LAPLACE LEARNINGN = 250M = 0.30000000000000000000000000000000000	30.7 (3.4) $30.0 (3.4)$	35.5 (3.5)	39.4 (3.0)	42.2 (2.8)	44
High order Laplace learning $N=500M=0.3000000000000000000000000000000000$	38.3 (5.0)	45.5 (4.6)	49.4 (3.5)	52.2 (3.1)	53
High order Laplace learning $N = 0.0M = 0.4$	36.1 (4.2)	43.5 (4.4)	47.7 (3.6)	50.7 (3.1)	52
High order laplace learning $N=150$ m $=0.4$	34.2 (4.0)	41.0 (4.1)	45.2 (3.4)	48.3 (3.0)	50
High order laplace learning $N=200$ m $=0.4$	32.8 (3.9)	39.2 (3.9)	43.3 (3.2)	46.4 (3.0)	48
High order Laplace learning $N=250$ m $=0.4$	31.8 (3.6)	37.8 (3.7)	41.9 (3.2)	44.9 (2.9)	47
High order Laplace LearningN $=300$ m $=0.4$	$31.0\ (3.5)$	36.8 (3.6)	40.9 (3.1)	43.8(2.8)	46
High order Laplace LearningN $= 50$ m $= 0.5$	38.7(5.1)	45.8(4.7)	$49.6\ (3.5)$	52.4(3.1)	53
High order Laplace LearningN $= 100$ m $= 0.5$	36.9(4.4)	44.2(4.5)	48.4 (3.6)	51.5 (3.2)	53
High order Laplace LearningN $= 150$ m $= 0.5$	35.1(4.2)	42.0(4.3)	46.3(3.4)	49.3 (3.0)	5.
High order Laplace LearningN $= 200$ m $= 0.5$	33.8(4.0)	40.4(4.0)	44.5 (3.3)	47.7(3.0)	49
High order Laplace learning $N=250$ m $=0.5$	32.8 (3.8)	39.1 (3.9)	43.2(3.3)	46.3(2.9)	48
High order Laplace learningN $=300$ m $=0.5$	32.2(3.7)	38.2 (3.8)	42.3(3.1)	45.3(2.8)	47
High order Laplace Learning $N=50$ $M=0.6$	$39.1\ (5.1)$	46.0 (4.7)	49.8 (3.5)	52.6 (3.0)	53
High order Laplace learning $N=100$ m $=0.6$	37.6 (4.5)	44.9 (4.6)	49.1 (3.6)	52.1 (3.2)	54
High order Laplace learning $N=150$ $M=0.6$	35.9 (4.3)	43.0 (4.4)	47.2 (3.4)	50.2 (3.0)	52
High order Laplace LearningN = 200 M = 0.6	34.7 (4.2)	41.5 (4.2)	45.7 (3.3)	48.8 (2.9)	51
High order Laplace learning $N=250$ M $=0.6$	33.9 (4.0)	40.3 (4.0)	44.5 (3.3)	47.6 (2.9)	49
HIGH ORDER LAPLACE LEARNINGN = 300M = 0.6	33.3 (3.9)	39.5 (4.0)	43.7 (3.2)	46.7 (2.8)	48
High order Laplace LearningN = 50 M = 0.70000000000000001 High order Laplace LearningN = 100 M = 0.700000000000000000	39.4 (5.2) 38.2 (4.6)	46.2 (4.8)	49.9 (3.5)	52.6 (3.0)	53 54
High order Laplace learning $N = 150M = 0.70000000000000000000000000000000000$	36.8 (4.5)	45.5 (4.6) 43.8 (4.5)	49.6 (3.6) 48.0 (3.4)	52.6 (3.2) 51.0 (3.0)	53
High order Laplace learning $N = 130M = 0.70000000000000000000000000000000000$	35.7 (4.3)	43.6 (4.3) $42.5 (4.3)$	46.0 (3.4) $46.7 (3.3)$	49.8 (3.0)	51
High order Laplace learning $N = 250M = 0.70000000000000000000000000000000000$	34.9 (4.2)	41.5 (4.2)	45.7 (3.3)	48.8 (2.9)	50
High order Laplace Learning $N = 300M = 0.70000000000000000000000000000000000$	34.4 (4.1)	40.7 (4.1)	45.0 (3.2)	48.0 (2.9)	5(
High order laplace learning $N=50$ m $=0.8$	39.7 (5.2)	46.3 (4.8)	50.0 (3.5)	52.6 (3.0)	53
High order Laplace LearningN $= 100$ m $= 0.8$	38.8 (4.7)	46.0 (4.7)	50.0 (3.6)	52.9 (3.2)	54
High order Laplace learning $N=150$ m $=0.8$	37.5 (4.6)	44.5 (4.6)	48.7 (3.4)	51.6 (3.1)	53
High order Laplace LearningN $= 200$ m $= 0.8$	36.5(4.5)	$43.4\ (4.4)$	$47.5\ (3.3)$	$50.6\ (3.0)$	52
High order Laplace LearningN $= 250$ m $= 0.8$	35.9(4.4)	42.5(4.3)	$46.7\ (3.3)$	49.7(2.9)	5
High order Laplace LearningN $=300$ m $=0.8$	35.4(4.3)	41.8 (4.3)	46.1 (3.3)	49.0 (2.9)	5
High order Laplace LearningN $= 50$ m $= 0.9$	39.9(5.3)	46.3(4.9)	49.9(3.6)	52.4(3.0)	53
High order Laplace LearningN $= 100$ m $= 0.9$	39.2(4.8)	46.3(4.8)	50.3(3.6)	53.1 (3.2)	54
High order Laplace LearningN $= 150$ m $= 0.9$	38.1 (4.7)	45.1 (4.7)	49.2(3.4)	52.0(3.1)	54
High order Laplace learningN $=200$ m $=0.9$	37.3(4.6)	44.1 (4.5)	48.2(3.3)	51.2(3.0)	53
High order Laplace learning $N=250 \mathrm{m}=0.9$	36.8 (4.5)	43.3(4.4)	47.5 (3.4)	50.5(3.0)	52
High order Laplace LearningN $= 300$ m $= 0.9$	36.4 (4.5)	42.8 (4.5)	47.0(3.3)	49.9 (2.9)	52
High order Laplace LearningN $= 50$ m $= 1.0$	40.0 (5.4)	46.2 (4.9)	49.7 (3.6)	52.2 (3.0)	53
High order Laplace LearningN $= 100$ m $= 1.0$	39.6 (4.9)	46.5 (4.8)	50.4 (3.6)	53.1 (3.2)	54
High order Laplace LearningN $= 150$ m $= 1.0$	38.7 (4.8)	45.6 (4.8)	49.5 (3.4)	52.3 (3.1)	54
High order Laplace LearningN $= 200$ M $= 1.0$ 1	37.9(4.7)	44.6 (4.6)	48.7 (3.3)	51.6 (3.0)	5
High order Laplace learningN $= 250$ M $= 1.0$	37.5 (4.7)	44.0 (4.6)	48.2 (3.4)	51.0 (3.0)	53
HIGH ORDER LAPLACE LEARNINGN = 300M = 1.0	37.2 (4.6)	43.6 (4.6)	47.7 (3.3)	50.6 (2.9)	52
HIGH ORDER LAPLACE LEARNINGN = 50m = 1.1	40.1 (5.4)	46.1 (5.0)	49.5 (3.6)	51.9 (3.1)	53
High order Laplace learning $N = 1.00 M = 1.1$	39.9(5.0)	46.6 (4.9)	50.4 (3.6)	53.0 (3.2)	5.