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

HIGH ORDER LAPIAGE BEARMINGN = 100m = 0.1	Labels per class	1	2	3	4	5
HIGH ORDER LAPHAGE BEANNINGN = 100M = 0.1	gh order laplace learningN $= 50$ m $= 0.1$	47.6 (4.3)	55.4(3.9)	$61.\overline{3}(3.2)$	63.8 (2.9)	) 6
HICHO ORDER LAPLACE LEARNINGN = 200M = 0.1   38.5 (3.0)   45.8 (2.9)   50.5 (2.5)   53.5 (2.2)   41.6 (2.5)   45.6 (2.1)   48.6 (2.1)	gh order laplace learning $N=100$ m $=0.1$	$41.3\ (3.2)$	49.6 (3.3)	54.7(2.8)	58.0 (2.6)	) 6
Inchit order laphace Learninon $-200m - 0.1$   36.5 (2.7)   43.1 (2.6)   47.4 (2.2)   50.4     Inchit order laphace Learninon $-200m - 0.1$   31.4 (2.3)   40.1 (2.1)   43.8 (2.0)   46.7     Inchit order laphace Learninon $-300m - 0.1$   31.4 (2.3)   40.1 (2.1)   43.8 (2.0)   46.5     Inchit order laphace Learninon $-300m - 0.1$   31.4 (2.3)   40.1 (2.1)   43.8 (2.0)   46.5 (2.1)     Inchit order laphace Learninon $-300m - 0.2$   43.8 (3.4)   52.4 (3.4)   57.6 (2.8)   60.7 (2.8)     Inchit order laphace Learninon $-300m - 0.2$   43.8 (3.4)   52.4 (3.4)   57.6 (2.8)   60.7 (2.8)     Inchit order laphace Learninon $-300m - 0.2$   39.4 (2.9)   46.5 (2.7)   51.1 (2.3)   54.2     Inchit order laphace Learninon $-300m - 0.2$   39.4 (2.9)   46.5 (2.7)   51.1 (2.3)   54.2     Inchit order laphace Learninon $-300m - 0.2$   37.3 (2.0)   45.6 (2.7)   51.1 (2.3)   54.2     Inchit order laphace Learninon $-300m - 0.30000000000000000000000000000000000$	GH ORDER LAPLACE LEARNING $ m N=150$ M $=0.1$	38.5(3.0)	45.8(2.9)	1 1	$53.5\ (2.5)$	
Inchig order laplace learnings		` '	43.1(2.6)	47.4(2.2)	50.4(2.3)	) 5
HIGH ORDER LAPIACE LEARNINGN = 500M = 0.1		35.5(2.3)	41.6(2.5)	45.6(2.1)	48.4 (2.1)	) 50
HIGH ORDER LAPLAGE LEARNINGN = 100M = 0.2 HIGH ORDER LAPLAGE LEARNINGN = 100M = 0.2 HIGH ORDER LAPLAGE LEARNINGN = 100M = 0.2 HIGH ORDER LAPLAGE LEARNINGN = 200M = 0.2 HIGH ORDER LAPLAGE LEARNINGN = 300M = 0.2 HIGH ORDER LAPLAGE LEARNINGN = 300M = 0.2 HIGH ORDER LAPLAGE LEARNINGN = 100M = 0.30000000000000000000000000000000000		34.4(2.3)	40.1 (2.1)	43.8(2.0)	46.7 (1.9)	) 4
High order Laptace Learning		1 1	57.6(3.9)	` '	65.6 (2.8)	
Incide order Lapeace Learningon = 200M = $0.2$   39.4 (2.9)   46.5 (2.7)   51.1 (2.3)   54.2 (2)   EGH ORDER Lapeace Learningon = 250M = $0.2$   37.3 (2.6)   43.6 (2.3)   47.7 (2.1)   50.7 (2)   116.0 order Lapeace Learningon = 50M = $0.300000000000000000000000000000000000$		1 (	1 1	` ′	60.7 (2.6)	
High oidder Lapiace Lanningn $-3000 - 0.2$		` '	` /	` /	56.8 (2.6)	
High order Laplace LearningN = 300m = 0.32		1 1	1 1	1 1	54.2 (2.4)	
High onder Laplace LanningN = 100m = 0.30000000000000000000000000000000000					52.3 (2.1)	
High order Laplace LaringNoN = 100m = 0.30000000000000000000		1 1	1 1	1 1	50.7 (2.0)	
High order Laplace learningN = 150m = 0.3000000000000004		1 (	`	` ′	67.1 (2.7)	
High order Laplace LearningN = 200m = 0.30000000000000004		\ /	`	` '	63.3 (2.5)	
HIGH ORDER LAPLACE LEARNINGN = 250M = 0.30000000000000000000000000000000000			`	` ,	60.1 (2.6)	
HIGH ORDER LAPLACE LEARNINGN = 300M = 0.30000000000000000000000000000000000		1 1	` /	, ,	57.9 (2.4)	
High Order Laplace LearningN = 50m = 0.4		` ′		1 1	56.4 (2.2)	
High order laplace learningN = $100M = 0.4$			, ,	` ,	55.0 (2.1)	
High order laplace learnings = 150m = 0.4		1 (	` '	( /	68.2 (2.6) 65.4 (2.5)	
High order Laplace Learnings = $200 \text{m} = 0.4$		` '		` '	65.4 (2.5)	
High order Laplace LearningN = 250m = 0.4		\ /	\ /		62.9 (2.6)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1 1	1 1	` /	61.3 (2.3)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1 (		1 1	60.1 (2.2) 59.0 (2.2)	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		; ;		` ′	59.0 (2.2) 69.0 (2.6)	
HIGH ORDER LAPLACE LEARNINGN = $150M = 0.5$		1 1			69.0 (2.6) 67.1 (2.5)	
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High order Laplace LearningN = $50\text{m} = 0.6$		1 1			63.1 (2.2) 62.3 (2.2)	
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$\begin{array}{llllllllllllllllllllllllllllllllllll$	GH ORDER LAPLACE LEARNINGN $=50$ M $=0.7000000000000001$	`	` '	. ,	69.9 (2.5)	
$\begin{array}{llllllllllllllllllllllllllllllllllll$		1 (	` /	( /	69.1 (2.4)	
$\begin{array}{llllllllllllllllllllllllllllllllllll$		55.2(4.1)	( /	66.0(2.5)	$68.1\ (2.4)$	70
$\begin{array}{llllllllllllllllllllllllllllllllllll$	GH ORDER LAPLACE LEARNINGN $= 200$ M $= 0.700000000000000000000000000000000000$	54.7 (4.0)	61.3 (3.3)	65.5(2.4)	67.4(2.3)	6:
$\begin{array}{llllllllllllllllllllllllllllllllllll$	GH ORDER LAPLACE LEARNINGN $= 250$ M $= 0.700000000000000000000000000000000000$	54.6 (4.0)	60.9(3.2)	65.0(2.4)	67.0(2.3)	6:
High order laplace learning $N = 50M = 0.8$ $58.5 (4.5)  64.6 (3.8)  68.8 (2.7)  70.1 (2)  10.1$	GH ORDER LAPLACE LEARNINGN = $300 \text{M} = 0.7000000000000001$	54.5 (4.0)	60.6 (3.2)	64.7(2.4)	66.7(2.2)	) 6
High order laplace learningN = $100\text{m} = 0.8$ 57.2 (4.2) 63.7 (3.8) 67.9 (2.6) 69.7 (2 High order laplace learningN = $150\text{m} = 0.8$ 56.6 (4.2) 63.0 (3.6) 67.1 (2.5) 68.9 (2 High order laplace learningN = $200\text{m} = 0.8$ 56.3 (4.2) 62.6 (3.5) 66.7 (2.4) 68.5 (2 High order laplace learningN = $250\text{m} = 0.8$ 56.3 (4.1) 62.4 (3.4) 66.4 (2.4) 68.2 (2 High order laplace learningN = $300\text{m} = 0.8$ 56.3 (4.1) 62.4 (3.4) 66.1 (2.4) 68.0 (2 High order laplace learningN = $50\text{m} = 0.9$ 59.0 (4.5) 64.9 (3.8) 69.0 (2.6) 70.2 (2 High order laplace learningN = $150\text{m} = 0.9$ 57.6 (4.3) 63.7 (3.7) 67.8 (2.5) 69.4 (2 High order laplace learningN = $250\text{m} = 0.9$ 57.5 (4.3) 63.5 (3.6) 67.5 (2.5) 69.1 (2 High order laplace learningN = $250\text{m} = 0.9$ 57.5 (4.3) 63.3 (3.5) 67.3 (2.4) 68.9 (2 High order laplace learningN = $300\text{m} = 0.9$ 57.5 (4.3) 63.3 (3.5) 67.1 (2.4) 68.8 (2 High order laplace learningN = $300\text{m} = 0.9$ 57.5 (4.3) 63.3 (3.5) 67.1 (2.4) 68.8 (2 High order laplace learningN = $300\text{m} = 0.9$ 57.6 (4.3) 63.3 (3.5) 67.1 (2.4) 68.8 (2 High order laplace learningN = $300\text{m} = 0.9$ 57.6 (4.3) 63.3 (3.5) 67.1 (2.4) 68.8 (2 High order laplace learningN = $150\text{m} = 1.0$ 58.6 (4.4) 64.6 (3.8) 68.6 (2.6) 70.1 (2 High order laplace learningN = $150\text{m} = 1.0$ 58.3 (4.3) 64.0 (3.7) 68.0 (2.5) 69.5 (2 High order laplace learningN = $250\text{m} = 1.0$ 58.3 (4.4) 64.0 (3.7) 68.0 (2.5) 69.5 (2 High order laplace learningN = $250\text{m} = 1.0$ 58.3 (4.3) 64.0 (3.6) 67.8 (2.4) 69.3 (2	GH ORDER LAPLACE LEARNING $N=50$ M $=0.8$	1 1		68.8(2.7)	70.1 (2.5)	7
HIGH ORDER LAPLACE LEARNINGN = $200\text{M} = 0.8$		` '	63.7(3.8)	. ,	69.7(2.4)	7
HIGH ORDER LAPLACE LEARNINGN = $250\text{M} = 0.8$		, ,	, ,		68.9 (2.3)	
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High order Laplace Learning $N = 250 \text{m} = 1.0$ 58.3 (4.3) 64.0 (3.6) 67.8 (2.4) 69.3 (2.4)	N. 200 1.0	1 1	1 1	. ,	69.7 (2.3)	
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HIGH ORDER LAPLACE LEARNINGIN = $300M = 1.0$ 58 5 (4.4) 64 0 (3.6) 67 7 (9.4) 60 9 (9.5)		1 (	1 1	1 1	69.3 (2.3)	
		1 (	1 1	67.7 (2.4)	69.2 (2.2)	
					69.8 (2.4) 70.0 (2.3)	