

Table 1: Node classification performance in few-shot scenarios of Cora w.r.t. the classification accuracy. We highlight the best results in bold. \* and \*\* denote  $p < 0.05$  and  $p < 0.01$ , respectively.

Methods	0-shot	1-shot	2-shot	3-shot	4-shot	5-shot	10-shot
GCN(Pyg)	-	60.32(4.12)	64.86(5.83)	68.30(4.81)	71.94(1.85)	75.74(1.81)	78.16(2.57)
GCN(MiniLM)	-	64.26(6.22)	69.28(5.56)	74.02(4.70)	75.64(2.93)	78.30(1.15)	80.24(1.58)
GAT(Pyg)	-	51.76(4.97)	55.90(4.61)	61.16(5.32)	67.74(2.14)	71.26(3.06)	75.38(3.26)
GAT(MiniLM)	-	60.02(6.24)	67.58(4.18)	72.14(5.46)	74.24(2.37)	76.90(1.61)	79.16(1.20)
DCI	-	62.06(7.40)	71.26(6.02)	72.96(2.88)	76.88(3.50)	78.42(2.11)	79.92(1.25)
MVGRL	-	61.94(10.64)	67.48(4.55)	67.68(1.83)	74.66(1.96)	76.98(3.27)	79.16(1.97)
GRACE	-	67.00(9.17)	68.78(3.98)	73.20(5.87)	75.36(2.33)	77.68(2.34)	80.12(1.03)
Mixup+GCN	-	43.56(12.47)	53.58(8.58)	64.38(3.57)	65.58(6.45)	68.72(4.46)	71.50(3.04)
DropEdge+GCN	-	48.67(2.85)	52.73(4.17)	63.03(7.00)	69.33(2.23)	70.13(2.82)	79.55(0.96)
Meta-PN	-	59.20(10.99)	68.92(4.74)	75.30(1.80)	76.50(2.63)	77.10(3.37)	80.12(1.15)
CGPN	-	67.94(4.09)	73.46(2.78)	75.76(0.91)	75.70(1.80)	77.46(2.63)	77.80(0.61)
LLM4NG+GCN	<b>74.46(1.60)</b>	<b>76.48(0.90)**</b>	<b>76.08(2.75)**</b>	76.26(2.88)	<b>76.94(2.07)</b>	79.06(0.75)	80.40(1.01)
LLM4NG+GAT	74.14(1.22)	75.90(1.86)	75.44(2.38)	<b>76.34(2.63)*</b>	76.40(1.51)	78.14(1.25)	79.60(1.16)
LLM4NG+GCN w/o A	70.44(1.72)	75.12(1.60)	75.24(1.88)	76.04(3.21)	76.86(1.58)	<b>79.28(1.20)**</b>	<b>80.94(1.55)**</b>
LLM4NG+GAT w/o A	74.08(1.49)	74.38(2.03)	75.00(4.36)	74.82(3.77)	75.98(3.42)	77.20(3.36)	78.82(2.57)
(improv.)	-	(+12.57%)	(+3.57%)	(+0.77%)	(+0.08%)	(+1.10%)	(+1.02%)

Table 2: Node classification performance in few-shot scenarios of Pubmed w.r.t. the classification accuracy. We highlight the best results in bold. \* and \*\* denote  $p < 0.05$  and  $p < 0.01$ , respectively.

Methods	0-shot	1-shot	2-shot	3-shot	4-shot	5-shot	10-shot
GCN(Pyg)	-	60.52(3.15)	63.16(2.45)	63.22(4.59)	65.58(3.58)	68.64(3.15)	75.26(2.48)
GCN(MiniLM)	-	63.02(3.71)	64.74(4.00)	65.82(2.24)	68.40(4.16)	70.06(4.33)	77.72(1.56)
GAT(Pyg)	-	59.72(4.14)	63.48(3.15)	63.76(2.87)	65.88(3.80)	66.92(3.84)	74.64(3.55)
GAT(MiniLM)	-	61.82(4.21)	63.22(5.70)	65.38(2.30)	66.56(2.96)	69.22(1.47)	76.02(1.86)
DCI	-	64.88(7.84)	64.70(9.13)	69.88(3.39)	70.98(3.72)	73.76(3.96)	77.96(0.95)
MVGRL	-	61.78(9.22)	64.7(10.64)	65.42(8.10)	69.36(1.08)	69.58(3.08)	75.16(4.41)
GRACE	-	63.80(1.93)	67.70(6.22)	68.74(6.06)	69.60(5.67)	71.46(7.00)	76.86(3.18)
Mixup+GCN	-	54.14(3.77)	54.48(7.05)	61.22(5.64)	62.30(6.96)	63.08(8.09)	68.08(4.12)
DropEdge+GCN	-	51.77(8.43)	64.76(2.95)	64.35(5.82)	67.43(1.33)	66.43(1.69)	76.70(1.04)
Meta-PN	-	57.52(3.85)	59.56(6.16)	66.60(7.24)	69.52(9.38)	69.66(6.55)	74.28(4.84)
CGPN	-	59.03(10.05)	56.90(9.95)	63.00(11.36)	65.03(4.37)	64.73(7.68)	64.70(3.72)
LLM4NG+GCN	<b>75.36(2.43)</b>	<b>75.06(2.56)**</b>	<b>76.82(4.30)**</b>	<b>76.70(3.46)**</b>	<b>76.74(2.55)**</b>	<b>78.50(2.56)**</b>	<b>80.54(0.78)**</b>
LLM4NG+GAT	74.66(1.04)	75.98(2.82)	76.50(1.85)	76.06(2.67)	76.00(3.15)	78.04(2.22)	78.66(1.07)
LLM4NG+GCN w/o A	73.72(2.88)	74.82(2.45)	75.56(3.17)	75.72(3.36)	76.06(2.68)	77.66(2.85)	79.64(1.33)
LLM4NG+GAT w/o A	74.08(1.49)	74.38(2.03)	75.00(4.36)	74.82(3.77)	75.98(3.42)	77.20(3.36)	78.82(2.57)
(improv.)	-	(+15.70%)	(+13.47%)	(+9.76%)	(+8.11%)	(+6.42%)	(+3.31%)

Table 3: Node classification performance in few-shot scenarios of ogbn-arxiv w.r.t. the classification accuracy. We highlight the best results in bold. OOM denotes the out-of-the-memory error. \* and \*\* denote  $p < 0.05$  and  $p < 0.01$ , respectively.

Methods	0-shot	1-shot	2-shot	3-shot	4-shot	5-shot	10-shot
GCN(Pyg)	-	23.38(5.26)	32.98(9.12)	39.77(6.36)	46.23(3.62)	47.95(2.24)	52.27(1.86)
GCN(MiniLM)	-	31.42(3.89)	40.63(10.52)	45.62(7.02)	55.30(4.08)	53.44(2.01)	56.48(1.24)
GAT(Pyg)	-	22.83(4.48)	24.82(6.01)	29.70(3.03)	40.39(4.03)	40.17(3.47)	50.13(2.28)
GAT(MiniLM)	-	32.19(5.17)	41.43(8.28)	45.03(5.66)	53.92(2.35)	51.94(1.80)	54.39(1.22)
DCI	-	25.75(5.97)	32.93(6.30)	36.47(7.78)	40.71(2.42)	42.32(3.11)	45.79(1.27)
MVGRL	-	16.24(1.71)	17.82(2.26)	21.58(4.11)	23.42(1.79)	24.50(1.45)	31.26(1.17)
GRACE	-	29.91(1.73)	35.72(2.35)	38.24(3.62)	38.68(1.11)	37.72(2.11)	43.51(0.91)
Mixup+GCN	-	20.52(5.95)	27.45(5.09)	30.94(5.31)	35.45(4.47)	38.80(3.34)	44.15(2.21)
DropEdge+GCN	-	10.11(7.54)	20.75(3.86)	25.52(4.00)	29.50(4.70)	29.37(9.65)	37.89(2.24)
Meta-PN	-	23.38(6.10)	27.32(2.67)	31.47(0.73)	30.53(6.62)	34.67(3.68)	39.28(4.20)
CGPN	-	OOM	OOM	OOM	OOM	OOM	OOM
LLM4NG+GCN	<b>54.60(1.27)</b>	<b>56.83(1.82)**</b>	<b>58.32(1.01)**</b>	<b>58.70(1.54)**</b>	<b>60.58(0.74)**</b>	<b>60.83(0.88)**</b>	61.11(1.70)
LLM4NG+GAT	54.35(1.97)	56.29(2.65)	56.76(1.71)	58.04(1.81)	60.03(1.45)	59.95(1.59)	<b>61.40(1.06)**</b>
LLM4NG+GCN w/o A	53.82(2.02)	55.89(1.30)	57.13(1.14)	58.68(0.41)	59.83(2.03)	58.87(1.40)	60.31(1.74)
LLM4NG+GAT w/o A	54.13(0.71)	55.18(2.28)	56.50(1.75)	57.85(1.77)	59.70(1.72)	57.84(2.56)	59.89(0.91)
(improv.)	-	(+76.55%)	(+40.77%)	(+28.67%)	(+9.55%)	(+13.83%)	(+8.71%)