

# 1 GACET performance details

## 1.1 Performance details at different learning rates

### 1.1.1 1e-3

Table 1: Dataset 1 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	100.00	100.00	100.00	100.00
Subject_2	92.10	91.84	100.00	100.00
Subject_3	99.80	99.80	100.00	100.00
Subject_4	99.19	99.18	100.00	100.00
Subject_5	98.54	98.54	100.00	100.00
Subject_6	90.74	90.42	97.78	97.74
Subject_7	96.46	96.36	100.00	100.00
Subject_8	96.46	96.27	100.00	100.00
Subject_9	98.96	98.94	96.67	96.52
Subject_10	98.15	98.11	98.02	98.01
Subject_11	95.96	95.94	100.00	100.00
Subject_12	97.95	97.93	99.44	99.44
Subject_13	95.83	95.63	99.44	99.33
Subject_14	95.00	94.81	100.00	100.00
Subject_15	98.54	98.50	100.00	100.00
Subject_16	95.83	95.60	100.00	100.00
Subject_17	94.70	94.61	100.00	100.00
Subject_18	100.00	100.00	100.00	100.00
Subject_19	91.88	91.31	97.86	97.74
Subject_20	94.66	94.56	96.11	95.96
Subject_21	90.83	90.59	98.33	98.32
Subject_22	96.75	96.65	96.67	96.52
Subject_23	90.06	89.07	97.78	97.71
Subject_24	98.96	98.95	100.00	100.00
Subject_25	96.47	96.41	99.44	99.44
Subject_26	97.10	97.01	98.89	98.88
Subject_27	94.70	94.61	100.00	100.00
Subject_28	81.25	77.50	100.00	100.00
Subject_29	99.38	99.37	99.44	99.44
Summary	95.73±3.95	95.47±4.54	99.17±1.19	99.14±1.23

Table 2: Dataset 1 (4class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	65.05	61.59	98.02	98.17
Subject_2	62.07	56.37	92.05	92.17
Subject_3	66.14	63.09	97.36	97.44
Subject_4	72.75	68.85	95.13	95.11
Subject_5	61.57	55.71	95.88	95.27
Subject_6	54.91	48.63	93.06	92.50
Subject_7	68.24	63.45	98.75	98.75
Subject_8	58.82	56.40	96.54	96.63
Subject_9	57.06	55.31	96.72	96.29
Subject_10	52.25	49.90	97.09	97.04
Subject_11	70.82	67.60	96.81	96.74

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Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_12	65.13	61.63	98.04	97.97
Subject_13	50.73	44.83	86.65	85.29
Subject_14	54.51	50.63	95.27	95.61
Subject_15	63.43	57.95	94.63	94.33
Subject_16	63.92	59.90	98.57	98.64
Subject_17	63.67	59.15	98.26	98.03
Subject_18	62.30	61.13	98.77	98.88
Subject_19	46.86	44.20	94.87	94.47
Subject_20	65.07	60.76	88.21	87.40
Subject_21	74.12	72.00	96.94	96.67
Subject_22	52.00	46.70	95.57	95.58
Subject_23	55.38	48.73	97.05	96.93
Subject_24	65.69	63.12	98.79	98.77
Subject_25	75.54	74.11	98.53	98.37
Subject_26	53.51	52.70	93.44	93.42
Subject_27	63.67	59.15	98.26	98.03
Subject_28	39.71	32.75	94.63	94.60
Subject_29	67.41	62.04	85.68	83.31
Summary	61.11±8.19	57.18±8.83	95.50±3.45	95.26±3.87

Table 3: Dataset 2 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	91.90	91.70	99.60	99.59
Subject_2	93.81	93.76	99.00	98.99
Subject_3	83.02	82.17	97.05	96.98
Subject_4	89.29	89.10	99.61	99.60
Subject_5	89.52	89.43	97.84	97.83
Subject_6	87.86	87.63	97.22	97.21
Subject_7	85.00	84.75	95.04	94.90
Subject_8	96.43	96.42	100.00	100.00
Subject_9	89.68	89.59	99.40	99.40
Subject_10	87.22	86.49	98.01	97.99
Subject_11	95.71	95.69	100.00	100.00
Subject_12	90.40	90.29	98.59	98.59
Subject_13	91.43	91.23	99.22	99.22
Subject_14	87.30	86.67	98.81	98.80
Summary	89.90±3.67	89.64±3.87	98.53±1.34	98.51±1.37

Table 4: Dataset 2 (5class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	36.63	27.39	45.16	36.57
Subject_2	40.32	33.04	53.49	46.20
Subject_3	32.06	21.02	40.40	30.93
Subject_4	39.33	30.96	50.48	44.00
Subject_5	38.51	30.69	53.33	48.34
Subject_6	33.08	22.40	41.35	29.27
Subject_7	32.98	21.38	39.92	28.77
Subject_8	39.14	26.75	43.49	32.77

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Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_9	32.86	21.70	44.52	34.27
Subject_10	36.98	27.21	44.52	35.48
Subject_11	42.51	35.26	52.86	44.59
Subject_12	32.98	21.64	43.41	33.69
Subject_13	35.30	24.32	45.08	36.01
Subject_14	38.83	31.40	53.65	45.36
Summary	36.54±3.23	26.80±4.67	46.55±4.93	37.59±6.49

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Table 5: Dataset 1 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	100.00	100.00	100.00	100.00
Subject_2	98.78	98.76	97.78	97.66
Subject_3	100.00	100.00	100.00	100.00
Subject_4	100.00	100.00	100.00	100.00
Subject_5	100.00	100.00	100.00	100.00
Subject_6	92.32	92.04	98.33	98.30
Subject_7	98.75	98.75	100.00	100.00
Subject_8	98.75	98.73	99.44	99.44
Subject_9	98.33	98.28	96.11	95.94
Subject_10	98.78	98.76	99.44	99.44
Subject_11	97.98	97.96	98.89	98.88
Subject_12	97.58	97.50	97.78	97.74
Subject_13	98.14	98.10	100.00	100.00
Subject_14	92.92	92.80	99.52	99.52
Subject_15	98.96	98.93	100.00	100.00
Subject_16	94.17	93.95	98.89	98.86
Subject_17	97.97	97.95	100.00	100.00
Subject_18	100.00	100.00	100.00	100.00
Subject_19	95.62	95.46	96.67	96.44
Subject_20	95.52	95.39	93.89	93.39
Subject_21	94.79	94.71	97.78	97.66
Subject_22	96.14	96.06	93.89	93.08
Subject_23	95.48	95.40	98.33	98.30
Subject_24	100.00	100.00	100.00	100.00
Subject_25	98.99	98.96	99.44	99.44
Subject_26	98.34	98.29	95.56	95.16
Subject_27	97.97	97.95	100.00	100.00
Subject_28	86.67	84.18	100.00	100.00
Subject_29	100.00	100.00	100.00	100.00
Summary	97.34±2.96	97.20±3.31	98.68±1.80	98.59±1.97

Table 6: Dataset 1 (4class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	68.94	66.70	98.52	98.61
Subject_2	71.27	68.56	96.04	95.44
Subject_3	75.00	73.43	96.17	96.24

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Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_4	77.00	73.15	96.59	96.70
Subject_5	73.14	66.98	98.79	98.86
Subject_6	61.60	56.15	93.00	92.92
Subject_7	77.65	74.11	97.44	96.79
Subject_8	66.27	62.01	98.00	98.12
Subject_9	67.06	63.89	96.72	96.45
Subject_10	58.79	56.79	95.64	95.65
Subject_11	74.20	70.78	97.77	97.73
Subject_12	75.01	73.37	96.08	95.99
Subject_13	49.25	43.23	95.59	95.73
Subject_14	56.47	53.82	98.99	99.05
Subject_15	70.98	67.84	97.51	97.43
Subject_16	73.63	72.60	98.79	98.78
Subject_17	74.26	72.28	97.78	97.56
Subject_18	64.81	64.00	99.29	99.37
Subject_19	51.47	46.74	93.96	93.84
Subject_20	67.21	63.17	91.10	90.56
Subject_21	83.04	81.91	98.74	98.49
Subject_22	55.42	51.40	95.75	95.50
Subject_23	64.13	59.14	97.49	97.26
Subject_24	70.49	67.01	98.55	98.57
Subject_25	80.90	79.63	99.27	99.20
Subject_26	62.03	60.70	90.53	90.52
Subject_27	74.26	72.28	97.78	97.56
Subject_28	48.24	39.39	98.26	98.15
Subject_29	69.47	68.29	98.75	98.80
Summary	67.66±9.03	64.46±10.19	96.86±2.24	96.75±2.31

Table 7: Dataset 2 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	92.46	92.26	98.81	98.80
Subject_2	96.35	96.34	98.59	98.58
Subject_3	82.30	81.03	97.25	97.23
Subject_4	90.32	90.12	98.42	98.40
Subject_5	92.22	92.10	98.24	98.22
Subject_6	95.79	95.78	99.41	99.41
Subject_7	93.10	92.94	98.00	97.99
Subject_8	98.57	98.57	100.00	100.00
Subject_9	93.89	93.85	99.80	99.80
Subject_10	93.10	93.07	98.82	98.82
Subject_11	95.24	95.21	99.22	99.22
Subject_12	91.90	91.84	98.39	98.39
Subject_13	94.44	94.39	98.24	98.23
Subject_14	88.81	87.81	99.40	99.40
Summary	92.75±3.76	92.52±4.10	98.76±0.72	98.75±0.73

Table 8: Dataset 2 (5class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	44.41	39.99	61.67	59.66
Subject_2	44.16	41.07	62.38	60.39
Subject_3	36.44	30.06	48.97	46.43
Subject_4	46.95	43.50	59.05	56.63
Subject_5	40.19	35.19	60.08	57.73
Subject_6	40.19	36.15	58.89	56.28
Subject_7	36.44	31.55	52.94	50.03
Subject_8	49.59	46.44	57.06	55.13
Subject_9	42.57	37.77	59.76	57.31
Subject_10	42.89	37.33	54.92	53.11
Subject_11	47.68	43.42	65.08	63.94
Subject_12	40.89	35.20	58.57	57.07
Subject_13	37.40	29.80	55.00	50.74
Subject_14	49.02	44.75	62.78	60.43
Summary	42.77±4.29	38.01±5.22	58.37±4.14	56.06±4.52

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Table 9: Dataset 1 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	98.99	98.98	100.00	100.00
Subject_2	93.54	93.26	96.75	96.60
Subject_3	96.35	96.29	99.44	99.44
Subject_4	98.99	98.97	99.44	99.44
Subject_5	99.17	99.15	100.00	100.00
Subject_6	91.12	90.97	95.56	95.33
Subject_7	98.75	98.73	97.22	97.08
Subject_8	95.21	95.10	100.00	100.00
Subject_9	96.46	96.32	96.67	96.38
Subject_10	98.36	98.32	99.44	99.44
Subject_11	94.14	94.08	98.89	98.88
Subject_12	95.93	95.78	95.56	95.38
Subject_13	86.40	85.19	100.00	100.00
Subject_14	83.96	82.27	97.86	97.74
Subject_15	98.96	98.93	100.00	100.00
Subject_16	93.12	92.84	98.97	98.94
Subject_17	95.92	95.80	98.33	98.30
Subject_18	99.17	99.15	100.00	100.00
Subject_19	93.96	93.82	96.11	95.77
Subject_20	94.48	94.30	92.78	92.02
Subject_21	92.92	92.77	97.78	97.66
Subject_22	93.66	93.47	94.44	93.72
Subject_23	90.56	90.18	96.11	96.01
Subject_24	99.58	99.58	100.00	100.00
Subject_25	97.56	97.45	98.89	98.88
Subject_26	97.30	97.22	96.67	96.08
Subject_27	95.92	95.80	98.33	98.30
Subject_28	87.71	86.64	97.78	97.66
Subject_29	98.96	98.94	98.89	98.86
Summary	95.07±3.98	94.84±4.33	98.00±1.88	97.86±2.06

Table 10: Dataset 1 (4class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	64.58	62.00	87.66	87.22
Subject_2	64.20	60.76	86.19	83.68
Subject_3	67.50	65.44	94.65	94.79
Subject_4	69.18	66.13	88.86	89.00
Subject_5	61.86	56.51	92.62	92.54
Subject_6	58.32	54.97	87.18	86.08
Subject_7	68.33	65.88	91.87	90.68
Subject_8	62.94	59.41	91.12	91.22
Subject_9	62.06	60.28	91.30	90.90
Subject_10	55.46	53.47	91.23	90.78
Subject_11	70.05	67.54	93.74	93.60
Subject_12	64.50	63.57	86.74	86.77
Subject_13	47.18	42.50	86.19	86.36
Subject_14	52.45	49.69	89.71	89.87
Subject_15	63.73	59.78	86.37	86.03
Subject_16	65.29	64.63	95.84	95.62
Subject_17	67.28	65.79	90.20	89.72
Subject_18	58.90	55.52	92.14	92.29
Subject_19	49.02	45.57	88.59	87.58
Subject_20	65.76	62.45	81.28	79.73
Subject_21	74.22	71.69	89.32	87.15
Subject_22	46.43	44.92	88.94	89.03
Subject_23	51.12	46.47	90.92	91.00
Subject_24	58.73	55.55	87.11	85.76
Subject_25	73.79	72.48	95.57	95.69
Subject_26	55.60	54.16	81.21	81.11
Subject_27	67.28	65.79	90.20	89.72
Subject_28	39.71	32.61	90.48	90.38
Subject_29	63.03	62.17	89.95	90.11
Summary	60.98±8.31	58.20±9.11	89.56±3.47	89.12±3.78

Table 11: Dataset 2 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	93.33	93.29	96.41	96.38
Subject_2	94.05	93.99	97.01	96.99
Subject_3	83.89	83.22	93.31	93.11
Subject_4	91.27	91.16	97.05	97.00
Subject_5	89.60	89.47	94.51	94.32
Subject_6	89.52	89.41	96.46	96.44
Subject_7	87.14	86.37	92.28	91.98
Subject_8	96.90	96.89	99.22	99.22
Subject_9	92.46	92.36	99.02	99.02
Subject_10	87.22	86.11	97.45	97.44
Subject_11	94.05	94.00	97.65	97.64
Subject_12	90.95	90.87	98.62	98.61
Subject_13	91.35	91.19	97.45	97.45
Subject_14	86.11	85.23	94.88	94.74

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Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Summary	90.56±3.45	90.25±3.74	96.52±2.01	96.45±2.10

Table 12: Dataset 2 (5class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	40.51	34.94	51.19	47.21
Subject_2	40.92	35.61	50.24	45.69
Subject_3	34.41	28.70	42.70	38.59
Subject_4	42.83	38.13	47.30	41.82
Subject_5	36.89	30.62	48.33	43.17
Subject_6	35.43	29.88	41.75	37.01
Subject_7	34.25	29.06	39.52	34.87
Subject_8	42.98	39.03	47.46	43.97
Subject_9	39.71	32.79	49.68	45.67
Subject_10	37.27	30.94	45.08	42.03
Subject_11	43.43	38.42	51.51	47.81
Subject_12	37.40	31.72	44.92	40.82
Subject_13	38.10	30.85	48.33	43.40
Subject_14	40.00	34.12	50.71	46.63
Summary	38.87±2.98	33.20±3.41	47.05±3.62	42.76±3.75

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Table 13: Dataset 1 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	70.23	66.05	80.87	76.45
Subject_2	58.38	52.20	65.63	60.36
Subject_3	61.48	54.70	72.22	67.53
Subject_4	69.29	65.16	78.81	76.43
Subject_5	58.75	53.45	74.44	70.85
Subject_6	62.83	58.37	71.19	68.57
Subject_7	67.08	64.26	73.89	70.36
Subject_8	63.33	58.50	73.33	69.76
Subject_9	74.38	72.09	78.02	74.23
Subject_10	64.13	57.09	70.63	65.47
Subject_11	59.19	55.42	74.13	72.17
Subject_12	64.76	57.93	78.97	75.00
Subject_13	48.77	39.47	63.65	57.18
Subject_14	64.17	58.08	75.40	71.16
Subject_15	77.29	74.98	85.16	81.37
Subject_16	60.00	54.50	69.52	65.08
Subject_17	66.00	62.10	78.17	74.94
Subject_18	72.27	69.13	84.76	81.78
Subject_19	72.50	68.66	73.81	69.48
Subject_20	61.86	55.72	68.17	62.85
Subject_21	56.46	50.80	63.49	58.28
Subject_22	67.45	61.98	74.68	69.87
Subject_23	67.03	62.82	78.81	74.47
Subject_24	63.12	58.65	71.03	65.67

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Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_25	71.72	67.57	81.11	79.51
Subject_26	69.84	65.37	73.73	69.28
Subject_27	66.00	62.10	78.17	74.94
Subject_28	65.00	60.11	73.81	70.70
Subject_29	72.41	68.80	79.21	75.97
Summary	65.37±6.00	60.55±7.23	74.65±5.42	70.68±6.16

Table 14: Dataset 1 (4class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	30.55	24.65	39.65	34.87
Subject_2	27.57	21.00	38.11	32.04
Subject_3	33.99	27.28	39.38	33.10
Subject_4	35.17	30.23	39.07	34.85
Subject_5	23.24	17.52	44.89	39.99
Subject_6	32.43	25.13	43.02	38.47
Subject_7	35.69	30.21	41.30	34.60
Subject_8	30.39	23.98	40.22	36.38
Subject_9	29.31	24.31	44.25	37.97
Subject_10	32.40	26.34	43.24	36.68
Subject_11	31.11	25.10	41.70	35.77
Subject_12	30.24	26.42	36.48	31.74
Subject_13	28.67	20.89	35.88	28.96
Subject_14	27.75	21.71	37.05	32.10
Subject_15	31.96	27.43	39.45	35.66
Subject_16	30.59	24.68	34.40	28.54
Subject_17	32.82	26.65	39.01	33.52
Subject_18	28.46	22.48	38.17	33.16
Subject_19	30.00	24.61	41.79	36.00
Subject_20	29.86	23.55	37.01	32.42
Subject_21	34.61	29.78	37.88	31.61
Subject_22	31.41	26.14	37.86	33.11
Subject_23	28.40	22.95	43.64	38.44
Subject_24	27.55	22.28	36.10	30.51
Subject_25	32.46	27.67	36.83	32.56
Subject_26	28.57	22.32	39.25	32.81
Subject_27	32.82	26.65	39.01	33.52
Subject_28	22.06	16.48	31.32	25.94
Subject_29	29.56	24.19	36.54	31.39
Summary	30.33±3.05	24.57±3.23	39.05±3.04	33.68±3.10

Table 15: Dataset 2 (2class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	73.49	71.94	79.11	76.85
Subject_2	84.37	83.95	91.79	91.70
Subject_3	64.13	60.96	72.95	71.52
Subject_4	79.92	79.27	87.78	86.88
Subject_5	62.94	59.24	69.25	65.97
Subject_6	65.24	61.12	69.29	66.60

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Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_7	60.56	56.83	67.02	63.08
Subject_8	88.65	88.54	95.66	95.64
Subject_9	80.48	79.65	93.42	93.14
Subject_10	69.92	67.44	79.33	77.27
Subject_11	85.00	83.78	91.13	89.84
Subject_12	79.44	77.92	92.10	91.98
Subject_13	71.19	68.63	84.64	83.62
Subject_14	74.05	71.89	82.97	82.18
Summary	74.24±8.66	72.23±9.88	82.60±9.56	81.16±10.67

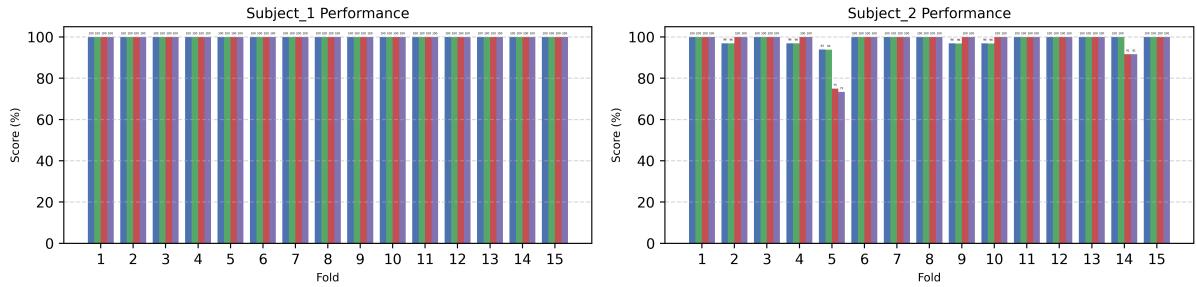
Table 16: Dataset 2 (5class)

Subject	CrossăAcc (%)	CrossăF1 (%)	IntimeăAcc (%)	IntimeăF1 (%)
Subject_1	23.49	19.21	26.75	23.50
Subject_2	26.89	23.82	31.83	28.36
Subject_3	22.83	17.42	24.84	22.49
Subject_4	23.17	19.59	27.46	24.57
Subject_5	22.51	19.38	26.59	23.51
Subject_6	21.49	18.11	25.32	22.20
Subject_7	20.29	16.31	22.30	17.85
Subject_8	28.41	24.72	36.51	33.96
Subject_9	24.38	20.03	29.60	26.68
Subject_10	22.54	18.02	28.57	25.03
Subject_11	29.65	26.66	34.21	29.99
Subject_12	25.24	22.03	29.44	26.42
Subject_13	21.40	17.06	26.35	22.58
Subject_14	21.62	18.29	24.44	20.33
Summary	23.85±2.68	20.05±3.00	28.16±3.77	24.82±3.95

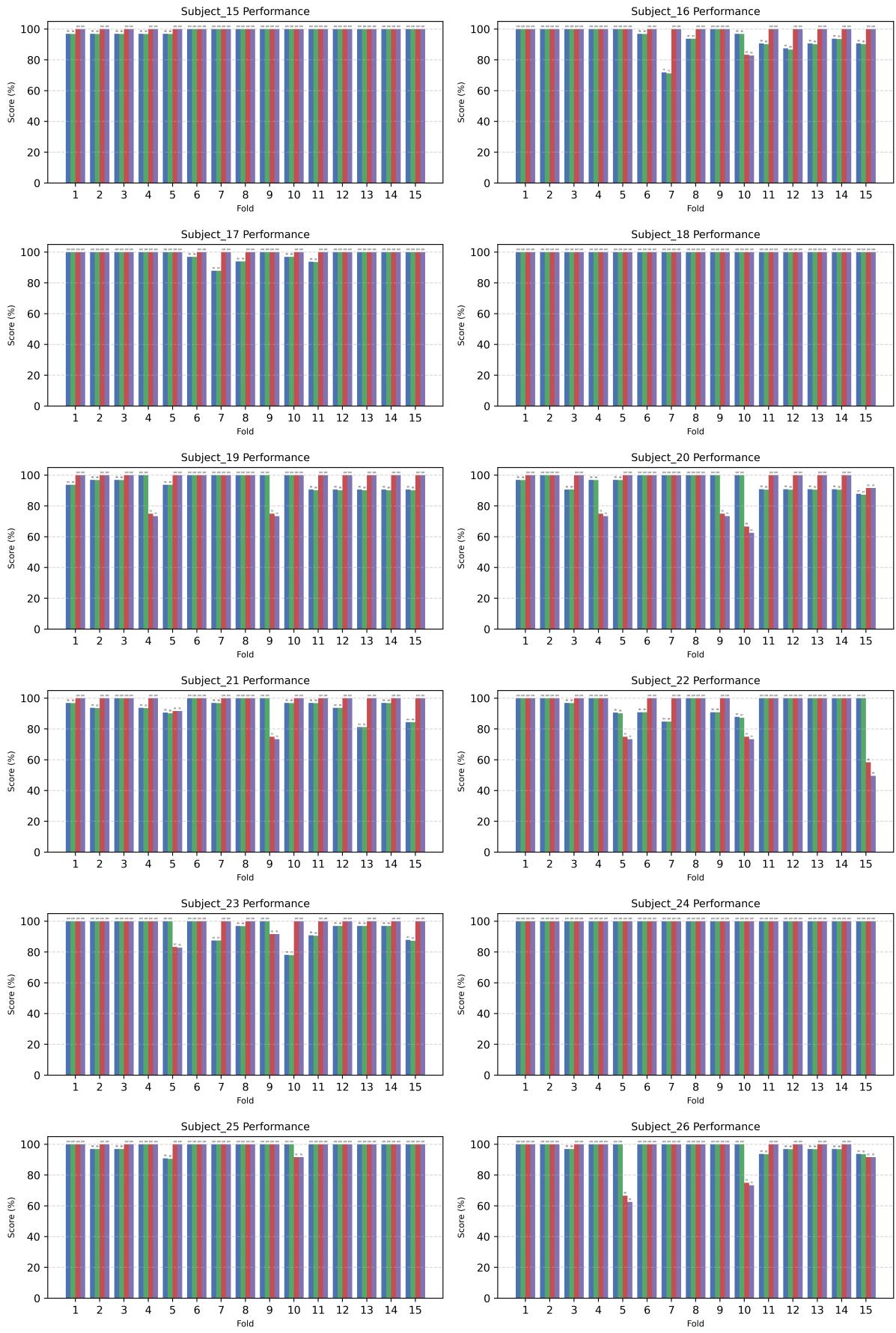
## 1.2 Individual performance at the best learning rate

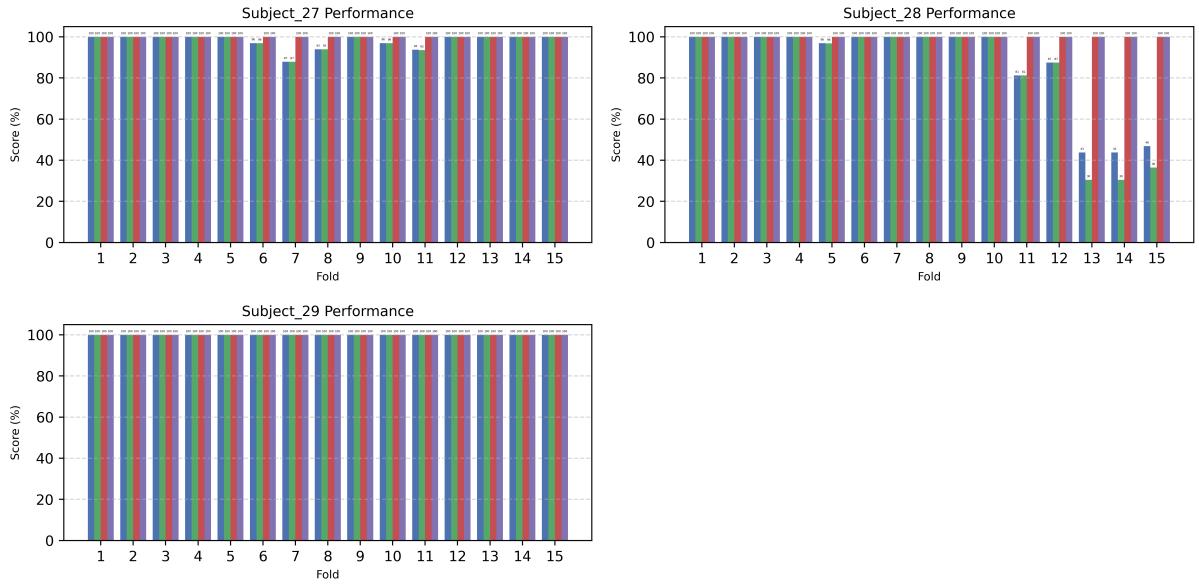
■ Cross Acc ■ Cross F1 ■ Intime Acc ■ Intime F1

### 1.2.1 Dataset 1 (2-class)

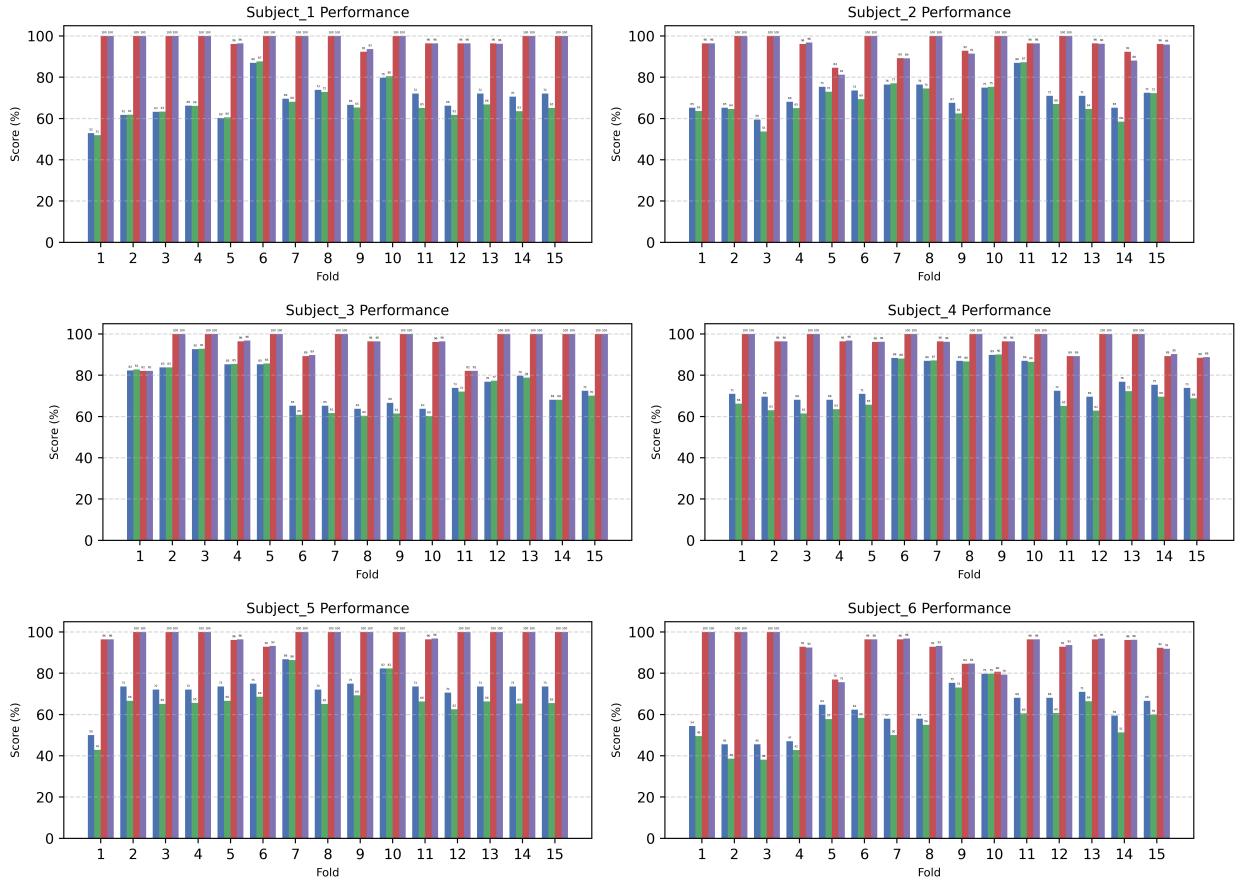


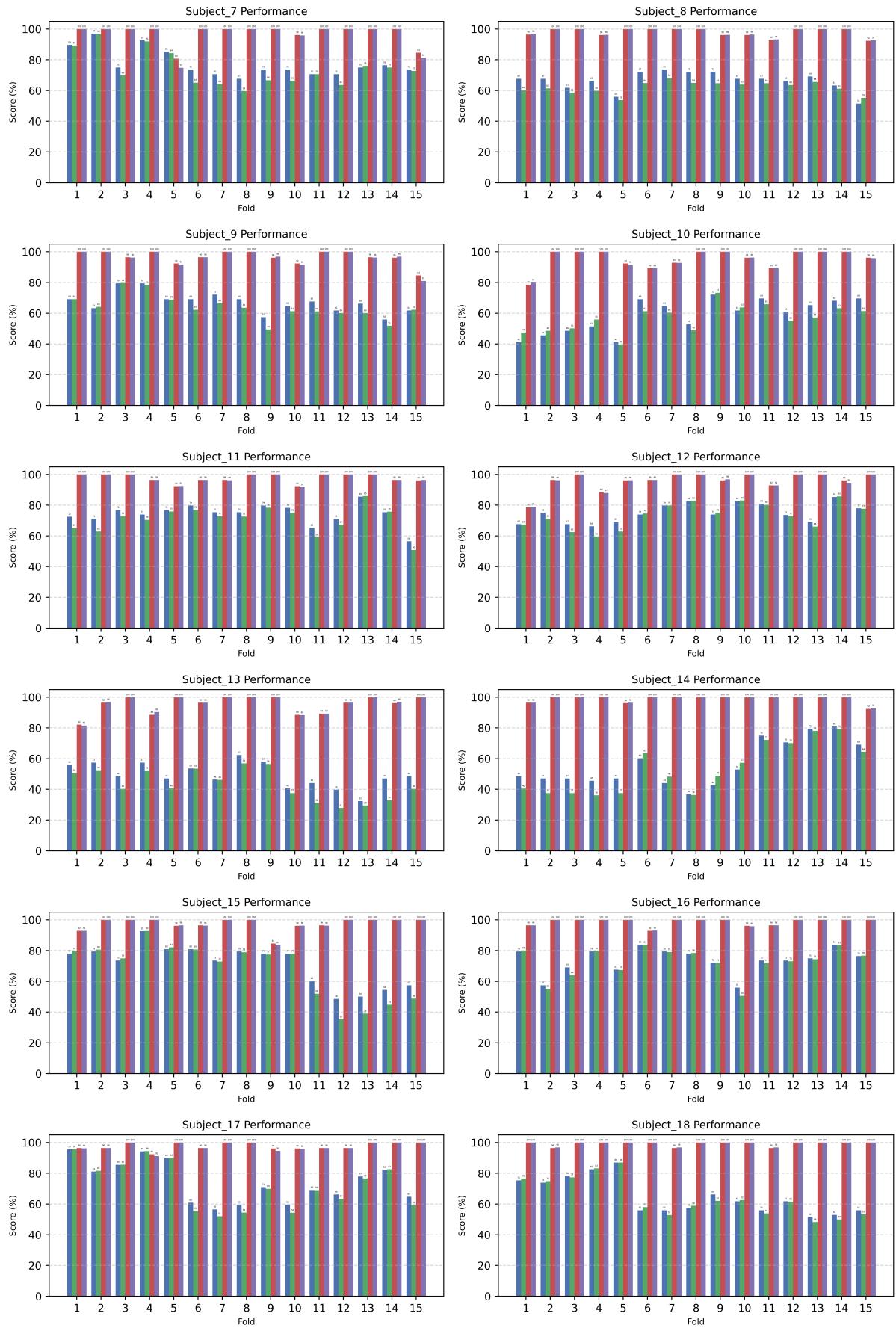


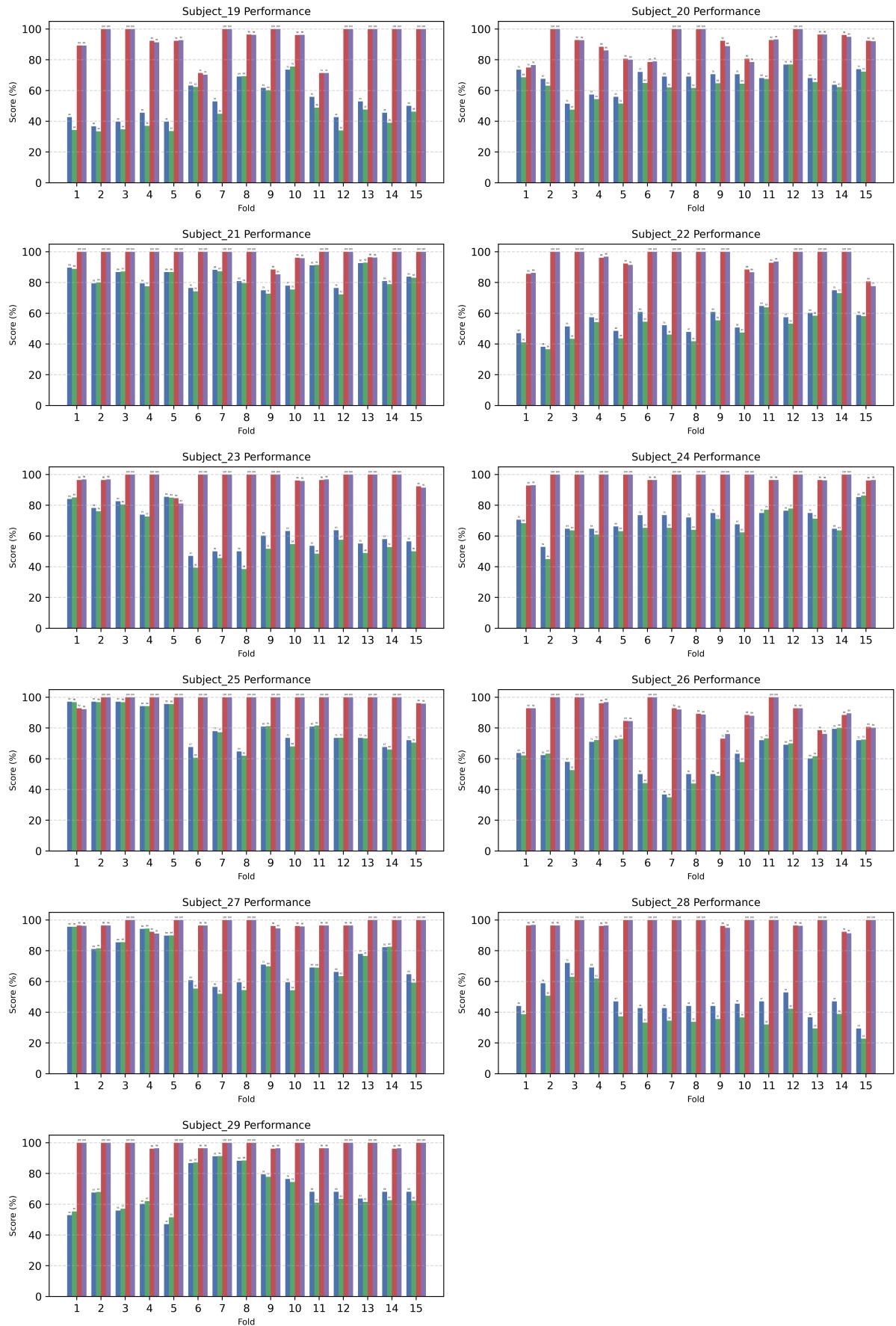




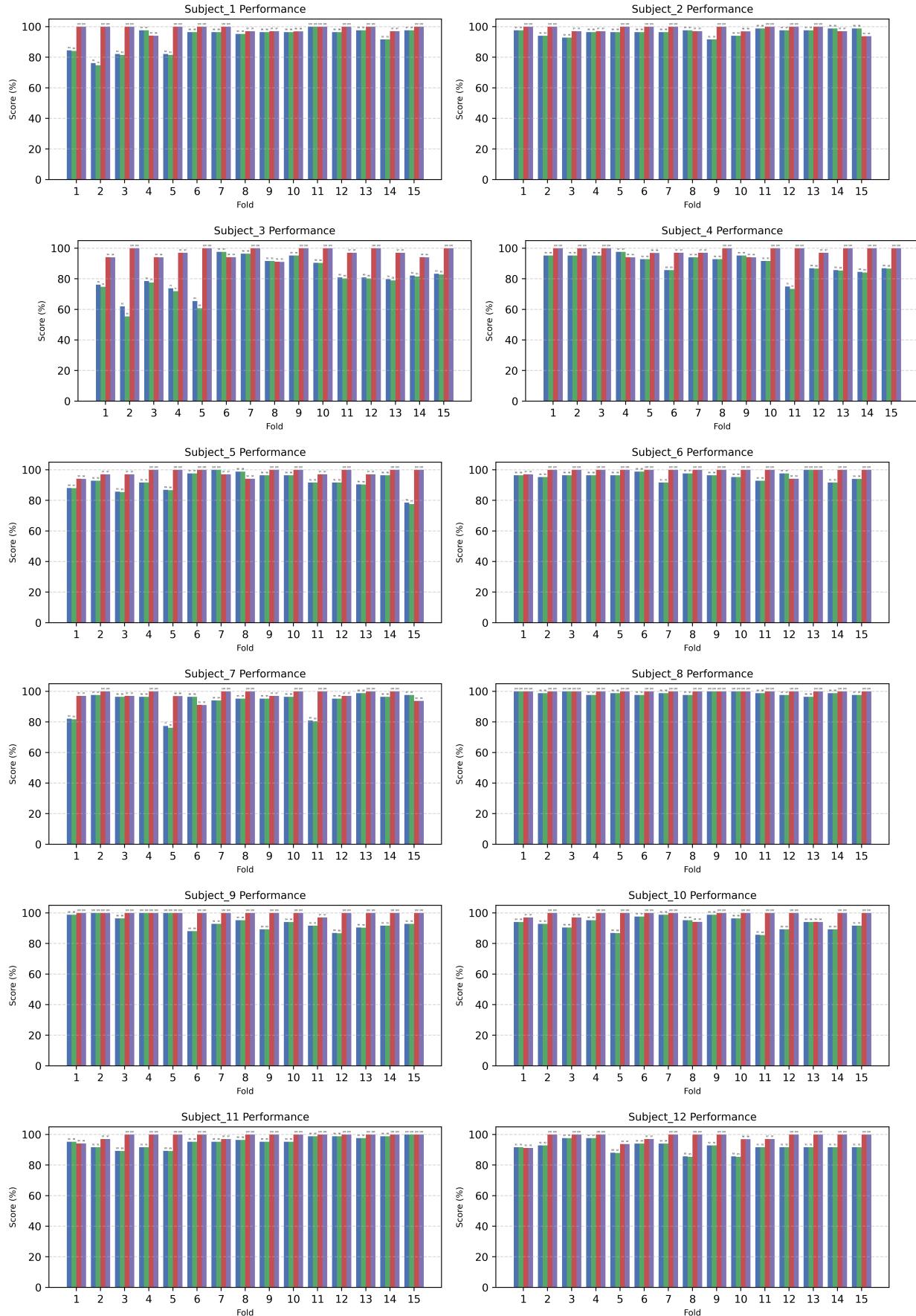
### 1.2.2 Dataset 1 (4-class)

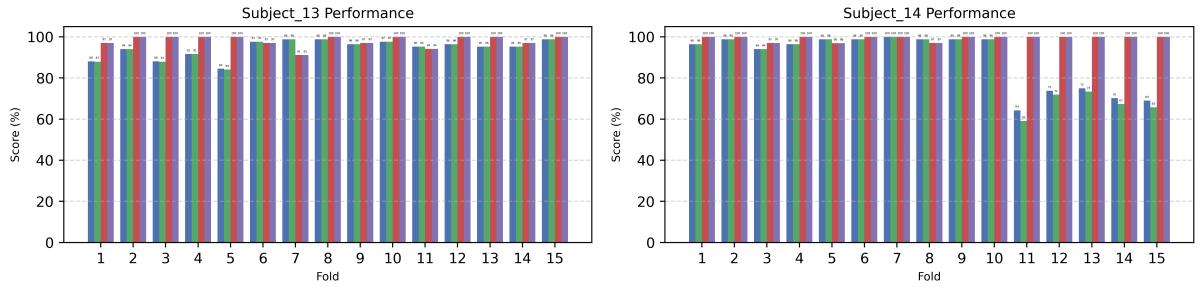






### 1.2.3 Dataset 2 (2-class)





#### 1.2.4 Dataset 2 (5-class)

