EEG2Age - Results

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1 Results

Table 1 and Table 2 show the metrics results. Table 7 show the TTpS (Train Time per Sample) results.

Model	SRM Resting-state EEG								
	s8			s16			s32		
	MAE	RMSE	MAPE	MAE	RMSE	MAPE	MAE	RMSE	MAPE
BAPM	8.6207	10.9219	0.2610	**8.0607**	**10.8924**	0.2423	8.8679	11.9708	0.2594
BAPM-CG	9.1508	12.1124	0.3159	8.5720	11.2067	0.2730	9.1182	11.7413	0.2758

Table 1: Results on SRM Resting-state EEG data for the models.

Model	SRM Resting-state EEG								
	s12			s16			s24		
	MAE	RMSE	MAPE	MAE	RMSE	MAPE	MAE	RMSE	MAPE
FeedForward	-	-	-	37.1000	39.5578	1.0000	-	-	-
GRUNet	-	-	-	11.5837	14.0128	0.3384	-	-	-
BAPM	8.2052	11.3111	0.2374	**8.0607**	**10.8924**	0.2423	8.3351	11.1475	**0.2347**
BAPM-CG	8.9291	11.1658	0.2976	8.5720	11.2067	0.2730	8.3543	11.0562	0.2465
BAPM-1	-	-	-	11.4550	14.3746	0.3191	-	-	-
BAPM-2	-	-	-	11.1898	14.0586	0.3140	-	-	-

Table 2: Results on SRM Resting-state EEG data for the models.

Table 4 shows the results on s16 dataset for BAPM with different settings of the stride $Stride = EEG\_frequency/Stride\_factor$.

According to Table 5, K-Fold Cross Validation on BAPM-s16: MAE = 8.7286, RMSE = 11.3910, MAPE = 0.2759.

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Model	SRM Resting-state EEG				
	TTpS (sec)				
	s8	s12	s16	s24	s32
FeedForward	-	-	0.0101	-	-
GRUNet	-	-	0.0701	-	-
BAPM	0.0388	0.0283	0.0230	0.0195	0.0166
BAPM-CG	-	-	0.0223	-	-
BAPM-1	-	-	0.0110	-	-
BAPM-2	-	-	0.0218	-	-

Table 3: TTpS (Training time per sample, unit: second) on SRM Resting-state EEG data for the models.

Stride Factor	SRM Resting-state EEG		
	s16		
	MAE	RMSE	MAPE
1 (1s)	9.8407	12.7894	0.2935
2 (0.5s)	8.4396	11.0257	0.2547
4 (0.25s)	8.0199	**10.7034**	**0.2428**
8 (0.125s)	**7.9656**	11.4174	0.2464

Table 4: Results on SRM Resting-state EEG data for BAPM, with a sample split of 16 (s16) and different stride factor settings.

Fold ID	SRM Resting-state EEG		
	s16-stf4		
	MAE	RMSE	MAPE
0	8.7059	11.2662	0.2594
1	9.6670	11.8216	0.3278
2	8.8555	11.4558	0.2655
3	8.6419	11.6841	0.2789
4	7.7727	10.7275	0.2477

Table 5: K-Fold Cross Validation results on SRM Resting-state EEG data for BAPM, with a sample split of 16 (s16) and a stride factor as 4 (stf4).

Model	SRM Resting-state EEG		
	s16-stf4		
	MAE	RMSE	MAPE
FeedForward	37.1000	39.5578	1.0000
GRUNet	11.5837	14.0128	0.3384
BAPM	**8.0607**	**10.8924**	0.2423
BAPM-CG	8.5720	11.2067	0.2730
BAPM-1	11.4550	14.3746	0.3191
BAPM-2	11.1898	14.0586	0.3140

Table 6: Results on SRM Resting-state EEG data for the models.

Metrics	SRM Resting-state EEG				
	BAPM (stf4)				
	s8	s12	s16	s24	s32
MAE	8.6207	8.2052	**8.0607**	8.3351	8.8679
RMSE	10.9219	11.3111	**10.8924**	11.1475	11.9708
MAPE	0.2610	0.2374	0.2423	**0.2347**	0.2594

Table 7: Results on SRM Resting-state EEG data for BAPM, with a stride of 4 (stf4) and different sample split settings.

Model	SRM Resting-state EEG		
	s16-stf4		
	MAE	RMSE	MAPE
FeedForward	37.1000	39.5578	1.0000
GRUNet	11.5837	14.0128	0.3384
BAPM	**8.0607**	**10.8924**	0.2423
BAPM-CG	8.5720	11.2067	0.2730

Table 8: Results on SRM Resting-state EEG data for the models.

Model	SRM Resting-state EEG		
	s16-stf4		
	MAE	RMSE	MAPE
BAPM	**8.0607**	**10.8924**	0.2423
BAPM-1	11.4550	14.3746	0.3191
BAPM-2	11.1898	14.0586	0.3140

Table 9: Ablation experiment results for BAPM.