

**Table S1.** Average results of accuracies per subject from 5-fold cross-validation, reported in the form of: mean (std).

Subject	Left perf.mo- tor	Right perf.motor	Combined perf.motor	Left imag.motor	Right imag.motor	Combined imag.motor	Combined task
1	0.893 (0.028)	0.867 (0.030)	0.926 (0.006)	0.889 (0.032)	0.888 (0.033)	0.928 (0.009)	0.930 (0.005)
2	0.852 (0.041)	0.838 (0.066)	0.897 (0.037)	0.865 (0.029)	0.822 (0.086)	0.893 (0.037)	0.904 (0.031)
3	0.906 (0.046)	0.880 (0.030)	0.931 (0.030)	0.893 (0.048)	0.885 (0.043)	0.927 (0.031)	0.934 (0.023)
4	0.946 (0.017)	0.951 (0.015)	0.954 (0.013)	0.946 (0.017)	0.944 (0.015)	0.953 (0.012)	0.953 (0.010)
5	0.916 (0.020)	0.922 (0.021)	0.950 (0.006)	0.902 (0.018)	0.917 (0.030)	0.944 (0.017)	0.950 (0.007)
6	0.949 (0.030)	0.944 (0.027)	0.964 (0.015)	0.947 (0.028)	0.938 (0.021)	0.962 (0.016)	0.966 (0.015)
7	0.913 (0.018)	0.885 (0.046)	0.954 (0.020)	0.913 (0.027)	0.879 (0.056)	0.951 (0.018)	0.955 (0.021)
8	0.838 (0.048)	0.861 (0.074)	0.904 (0.030)	0.850 (0.022)	0.886 (0.058)	0.919 (0.013)	0.920 (0.011)
9	0.904 (0.016)	0.926 (0.032)	0.935 (0.029)	0.894 (0.007)	0.929 (0.036)	0.939 (0.026)	0.936 (0.030)
10	0.891 (0.034)	0.871 (0.044)	0.913 (0.034)	0.892 (0.030)	0.888 (0.046)	0.915 (0.029)	0.917 (0.034)
11	0.884 (0.042)	0.883 (0.053)	0.936 (0.025)	0.877 (0.044)	0.893 (0.048)	0.938 (0.025)	0.940 (0.027)
12	0.893 (0.051)	0.867 (0.020)	0.926 (0.012)	0.889 (0.051)	0.888 (0.021)	0.928 (0.015)	0.930 (0.008)
13	0.852 (0.042)	0.838 (0.055)	0.897 (0.027)	0.865 (0.036)	0.822 (0.065)	0.893 (0.044)	0.904 (0.025)
14	0.906 (0.060)	0.880 (0.028)	0.931 (0.018)	0.893 (0.045)	0.885 (0.036)	0.927 (0.014)	0.934 (0.009)
15	0.946 (0.053)	0.951 (0.050)	0.954 (0.031)	0.946 (0.064)	0.944 (0.053)	0.953 (0.036)	0.953 (0.028)
Mean	0.884 (0.041)	0.887 (0.034)	0.926 (0.024)	0.883 (0.037)	0.888 (0.036)	0.925 (0.026)	0.930 (0.021)

**Table S2.** Average results of FAR per subject from 5-fold cross-validation, reported in the form of: mean (std).

Subject	Left perf.mo- tor	Right perf.motor	Combined perf.motor	Left imag.motor	Right imag.motor	Combined imag.motor	Combined task
1	0.051 (0.030)	0.080 (0.030)	0.010 (0.006)	0.053 (0.036)	0.051 (0.032)	0.006 (0.007)	0.004 (0.004)
2	0.107 (0.036)	0.104 (0.056)	0.041 (0.033)	0.093 (0.025)	0.117 (0.084)	0.042 (0.036)	0.030 (0.029)
3	0.077 (0.047)	0.096 (0.029)	0.036 (0.023)	0.087 (0.048)	0.092 (0.044)	0.038 (0.026)	0.028 (0.020)
4	0.021 (0.018)	0.013 (0.011)	0.008 (0.007)	0.019 (0.014)	0.024 (0.019)	0.012 (0.007)	0.008 (0.006)
5	0.062 (0.028)	0.057 (0.031)	0.021 (0.020)	0.075 (0.031)	0.064 (0.037)	0.027 (0.029)	0.020 (0.018)
6	0.041 (0.037)	0.049 (0.030)	0.023 (0.021)	0.041 (0.036)	0.053 (0.026)	0.025 (0.022)	0.020 (0.020)
7	0.062 (0.034)	0.082 (0.045)	0.010 (0.007)	0.066 (0.042)	0.086 (0.070)	0.013 (0.008)	0.008 (0.006)
8	0.100 (0.052)	0.078 (0.072)	0.025 (0.032)	0.090 (0.019)	0.052 (0.051)	0.011 (0.012)	0.009 (0.011)
9	0.062 (0.023)	0.046 (0.018)	0.021 (0.016)	0.072 (0.030)	0.043 (0.029)	0.018 (0.017)	0.018 (0.016)
10	0.069 (0.027)	0.101 (0.043)	0.040 (0.030)	0.074 (0.028)	0.078 (0.053)	0.038 (0.030)	0.033 (0.029)
11	0.077 (0.049)	0.079 (0.033)	0.022 (0.010)	0.088 (0.060)	0.071 (0.041)	0.023 (0.015)	0.018 (0.010)
12	0.130 (0.062)	0.056 (0.019)	0.018 (0.009)	0.114 (0.065)	0.055 (0.030)	0.011 (0.015)	0.008 (0.006)
13	0.101 (0.050)	0.088 (0.067)	0.038 (0.031)	0.127 (0.043)	0.128 (0.080)	0.068 (0.051)	0.035 (0.027)
14	0.063 (0.060)	0.085 (0.038)	0.014 (0.019)	0.076 (0.043)	0.092 (0.039)	0.017 (0.011)	0.008 (0.010)
15	0.136 (0.047)	0.079 (0.049)	0.040 (0.033)	0.119 (0.053)	0.068 (0.053)	0.039 (0.037)	0.030 (0.031)
Mean	0.077 (0.032)	0.073 (0.024)	0.025 (0.012)	0.080 (0.029)	0.072 (0.028)	0.026 (0.017)	0.019 (0.011)

**Table S3.** Average results of FRR per subject from 5-fold cross-validation, reported in the form of: mean (std).

Subject	Left perf.mo- tor	Right perf.motor	Combined perf.motor	Left imag.motor	Right imag.motor	Combined imag.motor	Combined task
1	0.056 (0.007)	0.053 (0.007)	0.064 (0.002)	0.058 (0.009)	0.062 (0.008)	0.066 (0.002)	0.066 (0.002)
2	0.041 (0.013)	0.057 (0.013)	0.062 (0.009)	0.042 (0.009)	0.061 (0.002)	0.065 (0.002)	0.065 (0.003)
3	0.017 (0.006)	0.023 (0.011)	0.033 (0.010)	0.021 (0.010)	0.023 (0.012)	0.036 (0.011)	0.038 (0.011)
4	0.034 (0.018)	0.036 (0.013)	0.038 (0.011)	0.035 (0.016)	0.032 (0.016)	0.036 (0.014)	0.038 (0.010)
5	0.022 (0.013)	0.021 (0.017)	0.029 (0.015)	0.023 (0.015)	0.019 (0.015)	0.029 (0.014)	0.031 (0.014)
6	0.010 (0.011)	0.007 (0.005)	0.013 (0.011)	0.012 (0.012)	0.009 (0.007)	0.013 (0.013)	0.013 (0.013)
7	0.025 (0.017)	0.033 (0.020)	0.037 (0.018)	0.021 (0.016)	0.035 (0.022)	0.036 (0.021)	0.037 (0.019)
8	0.063 (0.011)	0.062 (0.009)	0.071 (0.002)	0.060 (0.009)	0.063 (0.010)	0.071 (0.002)	0.071 (0.001)
9	0.035 (0.023)	0.029 (0.020)	0.045 (0.024)	0.034 (0.024)	0.029 (0.021)	0.043 (0.024)	0.046 (0.023)
10	0.040 (0.019)	0.029 (0.011)	0.047 (0.013)	0.034 (0.019)	0.035 (0.013)	0.047 (0.010)	0.050 (0.011)
11	0.039 (0.035)	0.038 (0.034)	0.042 (0.035)	0.036 (0.034)	0.036 (0.033)	0.038 (0.036)	0.042 (0.033)
12	0.053 (0.017)	0.056 (0.012)	0.068 (0.007)	0.053 (0.017)	0.059 (0.014)	0.069 (0.007)	0.069 (0.005)
13	0.068 (0.009)	0.064 (0.014)	0.073 (0.006)	0.060 (0.013)	0.055 (0.017)	0.070 (0.007)	0.073 (0.002)
14	0.055 (0.006)	0.033 (0.014)	0.056 (0.007)	0.048 (0.011)	0.033 (0.012)	0.052 (0.008)	0.059 (0.003)
15	0.027 (0.010)	0.063 (0.005)	0.066 (0.004)	0.030 (0.019)	0.063 (0.000)	0.068 (0.006)	0.069 (0.004)
Mean	0.039 (0.017)	0.040 (0.018)	0.050 (0.018)	0.038 (0.015)	0.041 (0.018)	0.049 (0.018)	0.051 (0.018)

**Table S4.** Wilcoxon signed-rank test results for pair-wise paradigm comparison of accuracies: marked in bold when statistically significant ( $\alpha = 0.05$ ).

Para- digms	Left perf.mo- tor	Right perf.mo- tor	Combined perf.motor	Left imag.mo- tor	Right imag.motor	Combined imag.motor	Combined task
Left perf.mo- tor		0.96387	<b>0.00006</b>	0.55994	0.93408	<b>0.00006</b>	<b>0.00006</b>
Right perf.mo- tor			<b>0.00006</b>	0.58972	0.87897	<b>0.00006</b>	<b>0.00006</b>
Com- bined perf.mo- tor				<b>0.00006</b>	<b>0.00006</b>	0.85449	<b>0.00031</b>
Left imag.mo- tor					0.5614	<b>0.00006</b>	<b>0.00006</b>
Right imag.mo- tor						<b>0.00006</b>	<b>0.00006</b>
Com- bined imag.mo- tor							<b>0.0014</b>
Com- bined task							

**Table S5.** Wilcoxon signed-rank test results for pair-wise paradigm comparison of FARs: marked in bold when statistically significant ( $\alpha = 0.05$ ).

Paradigms	Left perf.motor	Right perf.motor	Combined perf.motor	Left imag.mo-tor	Right imag.mo-tor	Combined imag.mo-tor	Combined task
Left perf.motor		0.94611	<b>0.00006</b>	0.5719	0.9032	<b>0.00006</b>	<b>0.00006</b>
Right perf.motor			<b>0.00006</b>	0.47913	0.85883	<b>0.00006</b>	<b>0.00006</b>
Combined perf.motor				<b>0.00006</b>	<b>0.00006</b>	0.71124	<b>0.00012</b>
Left imag.motor					0.57074	<b>0.00006</b>	<b>0.00006</b>
Right imag.motor						<b>0.00006</b>	<b>0.00006</b>
Combined imag.motor							<b>0.00012</b>
Combined task							

**Table S6.** Wilcoxon signed-rank test results for pair-wise paradigm comparison of FRRs: marked in bold when statistically significant ( $\alpha = 0.05$ ).

Paradigms	Left perf.motor	Right perf.motor	Combined perf.motor	Left imag.mo-tor	Right imag.mo-tor	Combined imag.mo-tor	Combined task
Left perf.motor		0.96637	<b>0.00006</b>	0.36353	0.77368	<b>0.00067</b>	<b>0.00006</b>
Right perf.motor			<b>0.00006</b>	0.79187	0.5957	<b>0.00024</b>	<b>0.00006</b>
Combined perf.motor				<b>0.00006</b>	<b>0.00006</b>	0.59033	<b>0.00018</b>
Left imag.motor					0.57166	<b>0.00006</b>	<b>0.00006</b>
Right imag.motor						<b>0.00006</b>	<b>0.00006</b>
Combined imag.motor							<b>0.00037</b>
Combined task							