Supplementary information: Myoelectric digit action decoding with multi-output, multi-class classification: an offline analysis

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Supplementary figures

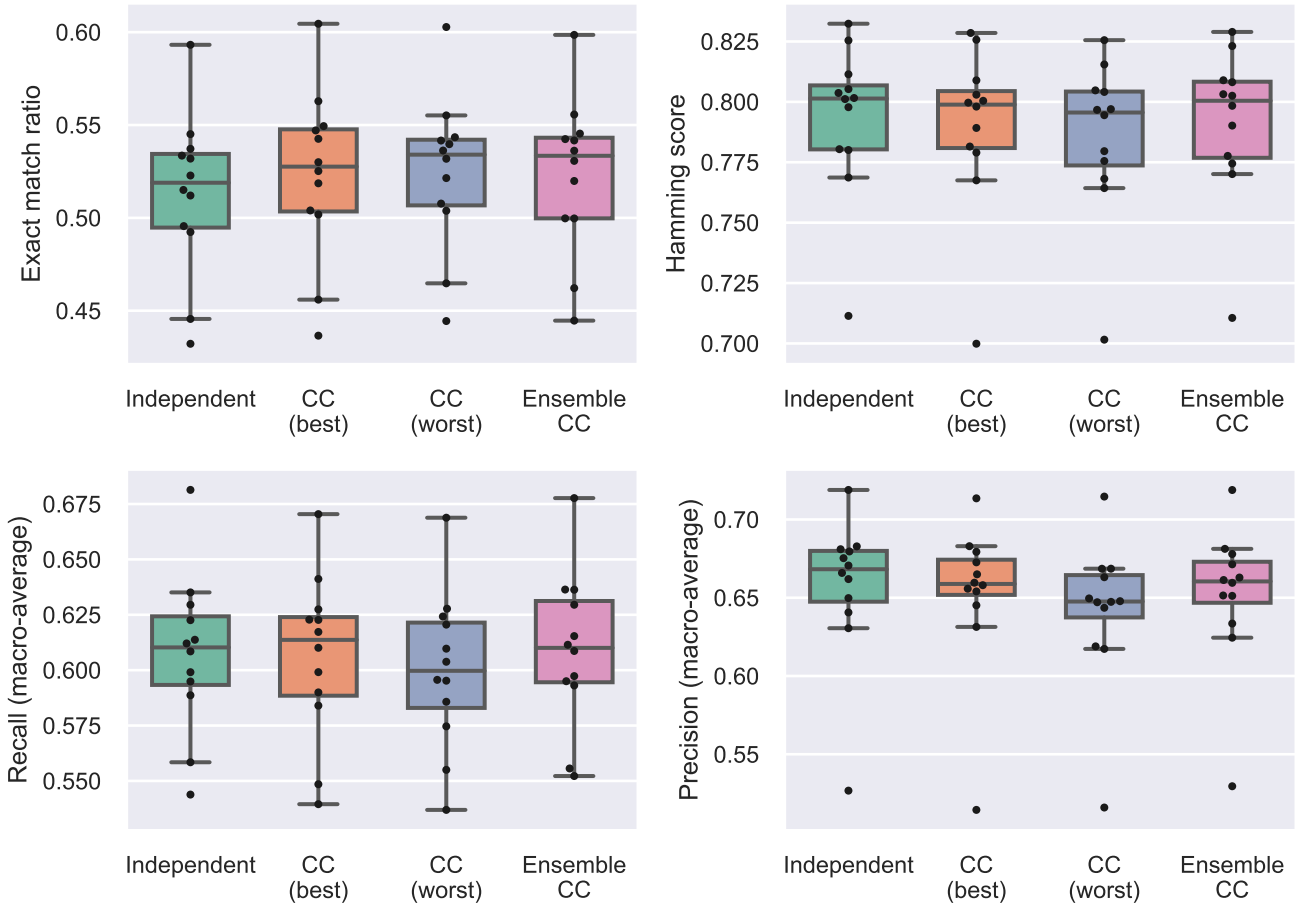

Figure S1. Classifier chain comparison using additional performance measures.

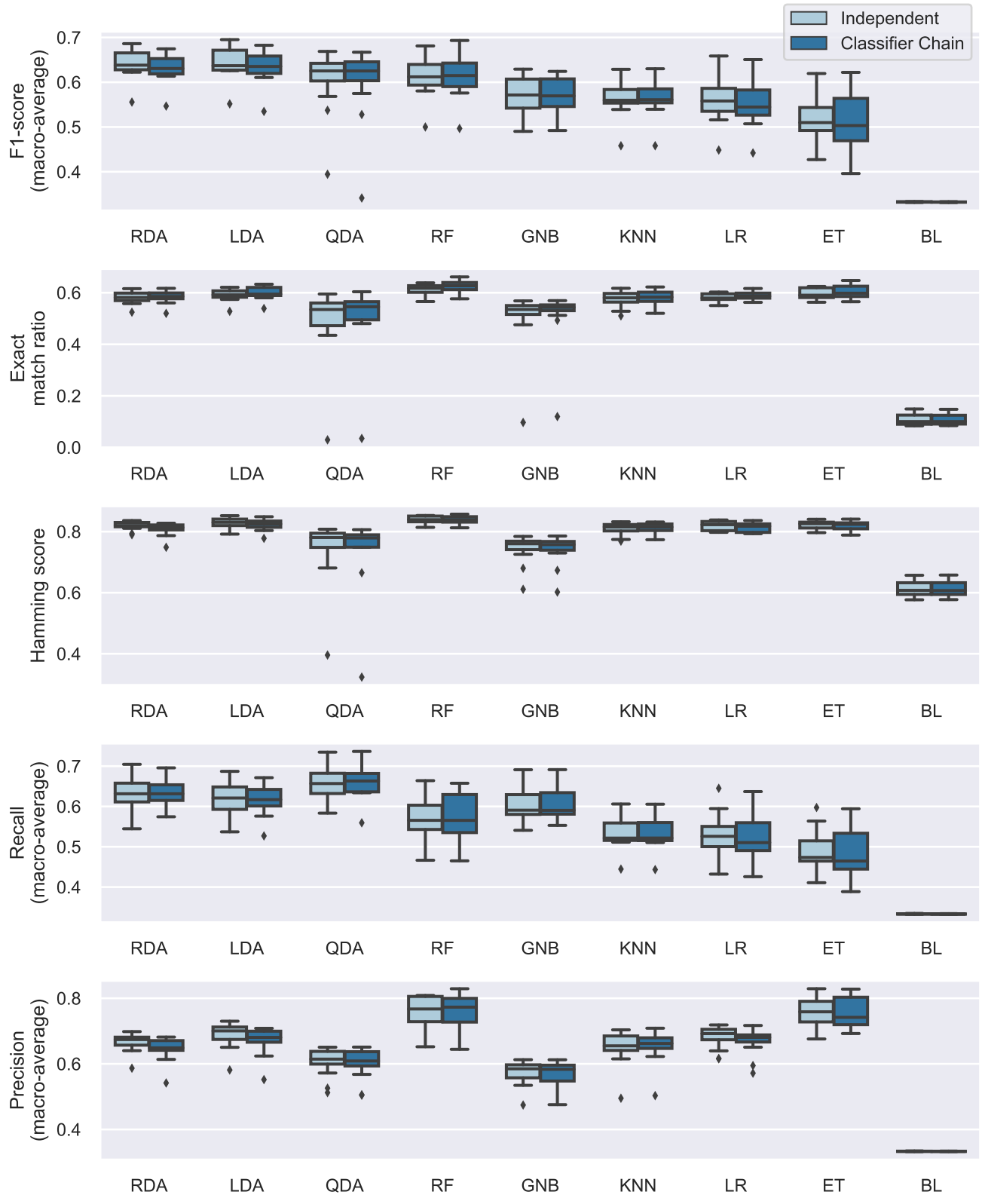

Figure S2. Multi-output independent classifier comparison using additional performance measures. Algorithms are presented in order of decreasing median macro-average F1-score. Diamonds indicate outliers.

Figure S3. Multi-output independent classification performance with best-performing algorithms for individual participants. AB, able-bodied; Amp, amputee.

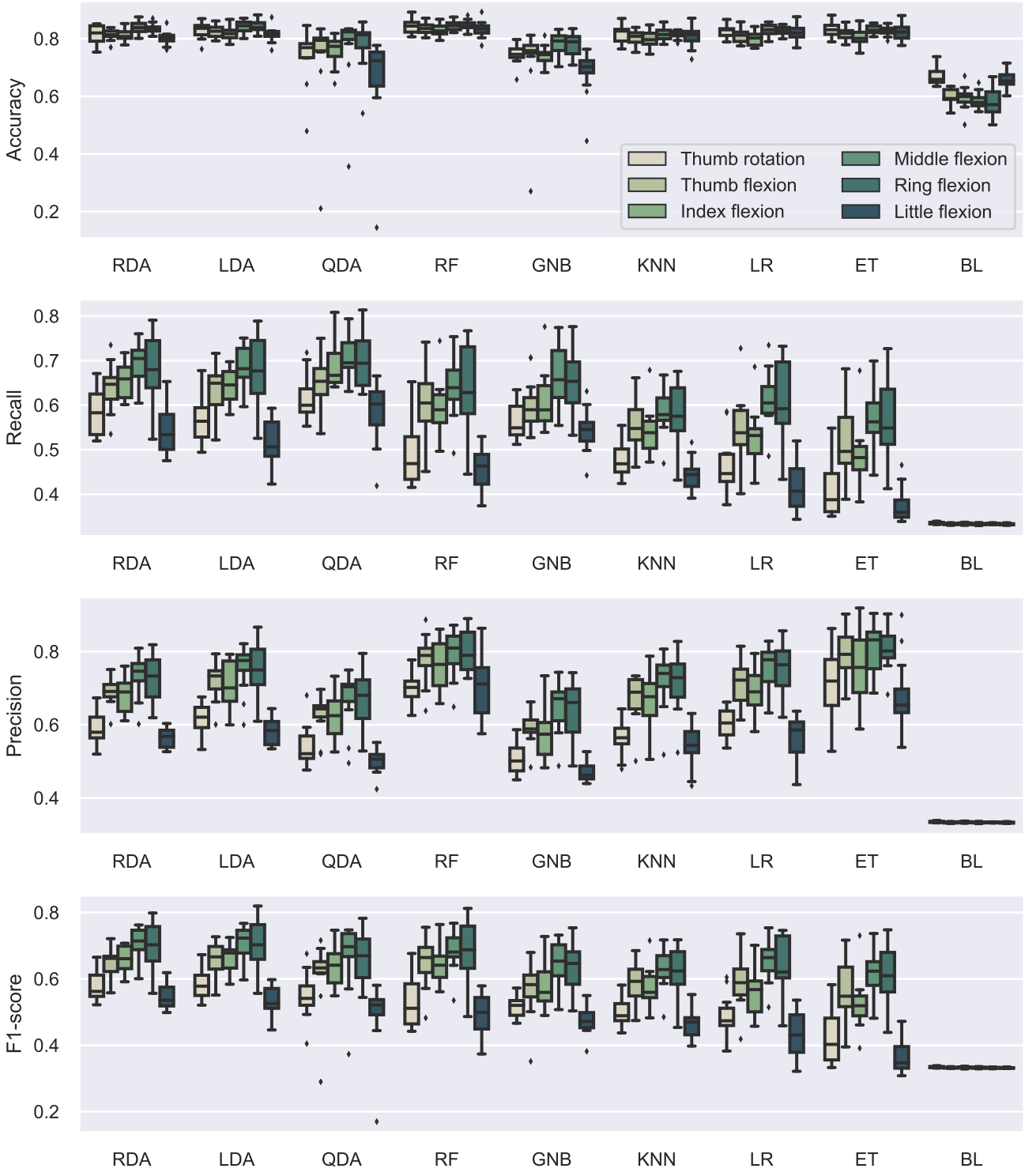

Figure S4. Multi-output independent classifier comparison for individual DOFs using additional performance measures. Algorithms are presented in order of decreasing median macro-average F1-score.

Supplementary table

Table S1. Classification benchmark. Abbreviations, hyper-parameters, and search ranges.

Classifier	Abbrv.	Hyper-parameter	Random search range
Baseline	BL		
Logistic regression	LR	Regularisation parameter	logspace{min=10^{-5}, max=10^{5}, n=100}
Linear discriminant analysis	LDA		
Quadratic discriminant analysis	QDA		
Regularised discriminant analysis	RDA	Regularisation parameter α	linspace{min=0, max=1, n=101}
		Regularisation parameter γ	linspace{min=0, max=0.2, n=21}
Gaussian Naive Bayes	GNB		
K-nearest neighbours	KNN	Number of neighbours	linspace{min=1, max=50, n=51}
		Weights	{uniform, distance}
Random forests	RF	Number of estimators	{10, 20, 50, 100, 200, 500}
		Maximum number of features	{auto, sqrt, log2}
		Maximum depth	linspace{min=1, max=10, n=11}
		Criterion	{gini, entropy}
Extra trees	ET	Number of estimators	{10, 20, 50, 100, 200, 500}
		Maximum number of features	{auto, sqrt, log2}
		Maximum depth	linspace{min=1, max=10, n=11}
		Criterion	{gini, entropy}