Parameters estimation

$$X^{rest} \xrightarrow{\text{Temporal ICA}} W^{rest}$$

$$X^{task} \xrightarrow{\text{Unmixing}} S^{task} = W^{rest} X^{task} \xrightarrow{\text{Quantile transform}} Z^{task} \xrightarrow{\text{Covariance estimator}} \Lambda, \begin{matrix} \mu_1 \\ \vdots \\ \mu_C \end{matrix}$$

Data generation

$$\tilde{Z}_c^{task} \sim \mathcal{N}(\mu_c, \Lambda) \xrightarrow{\text{Inverse quantile transform and re-mixing}} \tilde{X}_c$$

Performance evaluation

$$(X^{task}, \tilde{X}_1, \ldots \tilde{X}_C), (Y^{task}, \tilde{Y}_1, \ldots \tilde{Y}_C))$$

$$X_{test}^{task}, Y_{test}^{task}$$

Classifier $\longrightarrow$ Accuracy