



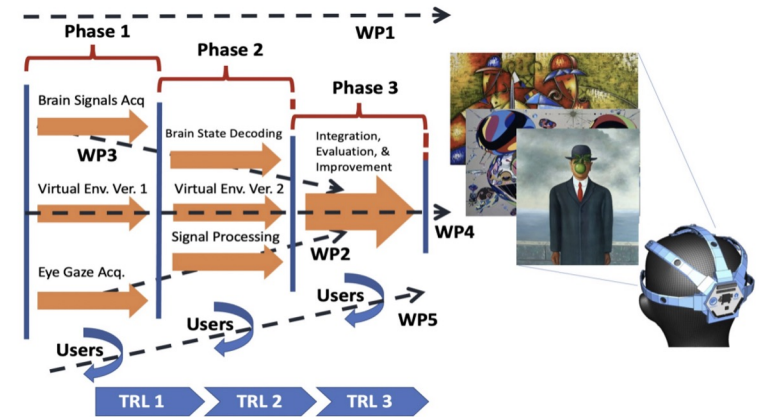
# EEG Denoising in a Passive Hybrid BCI with Deep Learning

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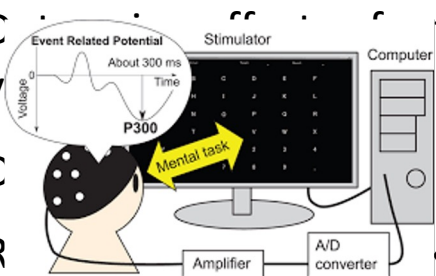
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- ❑ **Objective: Improve P300 signal classification in the presence of muscular artifacts**
- ❑ Obtain pre-processed EEG data and ground truth from partner labs' phase 1 data sets
- ❑ Use autoML code to determine optimal layers, nodes, and iterations for neural network as well as most accurate activation functions & solvers
- ❑ Train neural network to classify "target" vs "standard" samples
- ❑ Evaluate model using ROC AUC, f-score, confusion matrix



- ❑ Distinguish artifacts by comparing event related potentials
- ❑ Visualize the artifacts
- ❑ Remove the artifacts
- ❑ Re-run the experiment and see if accuracy improves



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