

Weekly Report

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1 Progress

- Check accuracy in Keio Hospital Dataset
- Implement EMD(Empirical Mode Decomposition), EEMD(Ensemble Empirical Mode Decomposition)
- Receive radar data from Ishizaka-San's Server

Identification in Keio Hospital Dataset

Table 1: Hyper parameter	
the number of Class	12
batch size	64
learning rate	0.001
epoch	100
window	5 s
overlap	1.5 s
alpha (center loss)	0.1

Table 2: Accuracy when only BPF is applied	
CrossEntropy Loss	45.69 %
Softmax Loss + Center Loss	47.27 %
Triple Joint Loss(Softmax + Center + Cosine Loss)	4.23 %

Calculations are currently underway for data with EMD and EEMD applied.

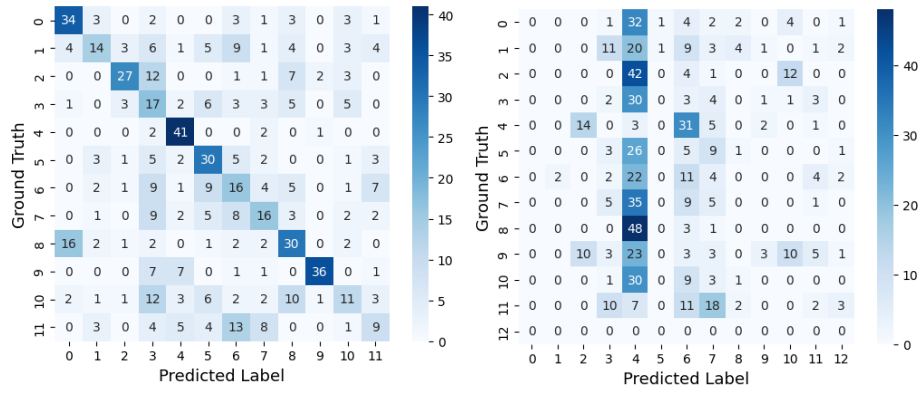


Figure 1: Confusion Matrix with Figure 2: Confusion Matrix with Triple-CrossEntropyLoss JointLoss

Application of EMD and EEMD to the data

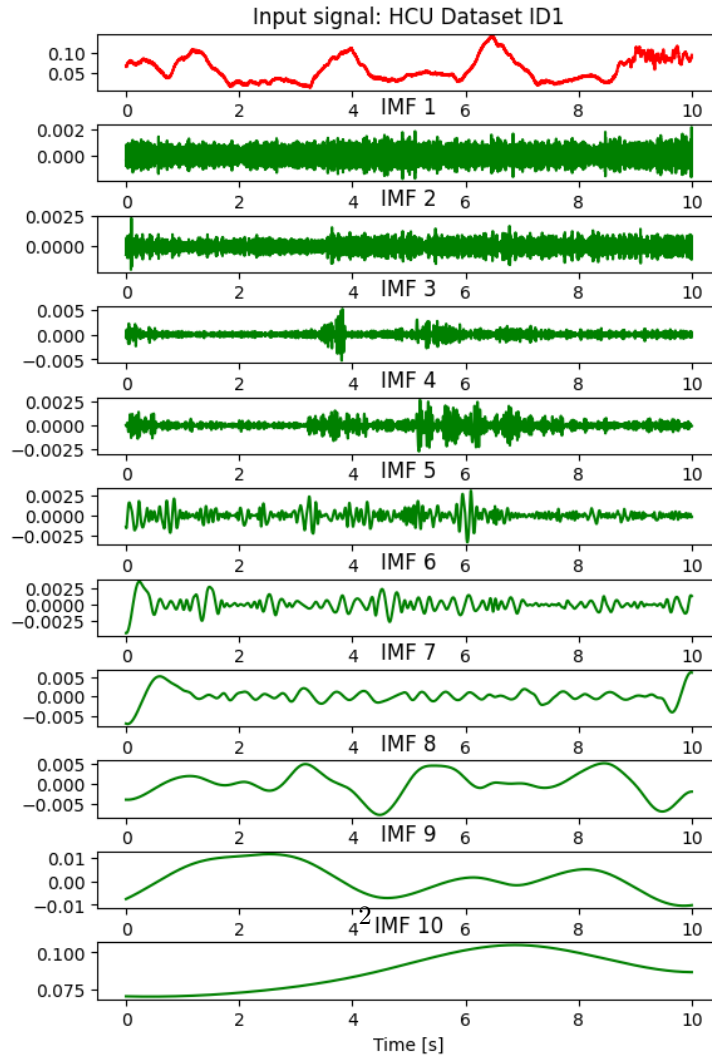


Figure 3: Application of EMD to ID1

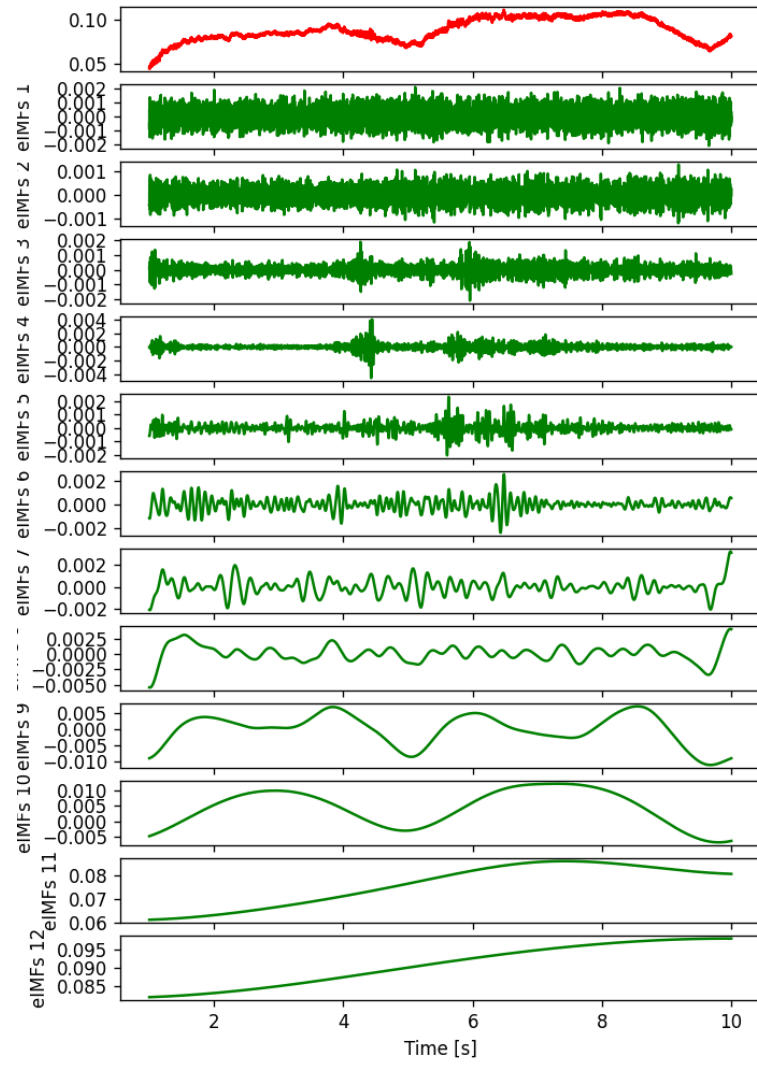


Figure 4: Application of EEMD to ID1

2 Next Plan

- Improve the methods for Identification in Keio Hospital Dataset((e.g., adjust hyperparameter, change the classifier to openmax, adopt a denoising method other than BPF, etc.))