Using PCA on EEG Data to Differentiate Sleep Stages

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***Abstract*—**

I. Introduction

II. Study of Literature

first work on pca [8] and [4]
given paper [6]
when does pca fail? [10] and [11] (non-linear method)
book containing sleep phases eeg [2]
Review Paper on Sleep Stage Classification Methods [1]
papers trying to solve similar problem [12] and [9] and [7]
competition using similar data set [3]
winner of competition [5]

III. Mathematical Basics

IV. Principal Component Analysis

V. Sleep Stages and EEG Data

VI. Data and Algorithm

1) subdivide eeg signals in the temporal domain
2) apply fft transforming into frequency domain
3) pca
4) achive dimensinality reduction
5) classification of sleep stages
6) visulisation

VII. Results

VIII. Conclusion

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