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## Classification of Multichannel EEG Signal by Linear Discriminant Analysis

(Conference Paper)

Hasan, M.R.<sup>a</sup> [✉](#), Ibrahimy, M.I.<sup>a</sup> [✉](#), Motakabber, S.M.A.<sup>a</sup> [✉](#), Shahid, S.<sup>b</sup> [✉](#) [👤](#)<sup>a</sup>Dept. of Electrical and Computer Engineering, International Islamic University, Gombak, Malaysia<sup>b</sup>Dept. of Computing Science, University of Glasgow, United Kingdom

## Abstract

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Motor imagery (MI) related Electroencephalogram (EEG) signal classification is one of the main challenge in designing a brain computer interface (BCI) system. Linear Discriminant Analysis (LDA) has a very low computational requirement which makes it suitable for online BCI system. This paper proposes an advanced and simple classification technique for MI related BCI system. Initially the signal is extracted for different features. The LDA classifier has been used to propose technique to design an MI based BCI. For contrastive comparison other classification techniques have been evaluated by classification accuracy and Cohen's kappa. © Springer International Publishing Switzerland 2015.

## Author keywords

BCI Cohen's Kappa EEG Classification LDA Motor Imagery EEG

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