

title: Towards Enhanced EEG-based Authentication with Motor Imagery BCI

abstract: Electroencephalography (EEG) is the record of electrogram of the electrical activity on the scalp typically using non-invasive electrodes. In recent years, many studies started using EEG as a human characteristic to construct biometric identification or authentication. EEG has its natural advantages whereas some characteristics have not been fully evaluated. For instance, we find that Motor Imagery (MI) brain-computer interface is mainly used for improving neurological motor function but has not been widely studied in EEG authentication. Currently, there are many mature methods for understanding such signals. This talk will introduce an enhanced EEG authentication framework with Motor Imagery, by offering a complete EEG signal processing and identity verification. Our framework integrates signal preprocess, channel selection and deep learning classification to provide an end-to-end authentication.