

Language Processing in the Brain for Biometric Authentication

Description

The expected outcome of this project is a better understanding of the potential use of language processing in the brain as a biometric authentication technique, and the development of a biometric authentication system using publicly available datasets. This project could also inform future research on brainwave biometric authentication, including the development of more accurate and robust authentication systems.

Project Roadmap

- Literature review: Conduct an extensive review of the existing literature on brainwave biometric authentication, language processing in the brain, and machine learning techniques for analyzing brain data.
- Dataset selection: Select one or more publicly available datasets that include fMRI, EEG, or MEG data related to language processing, and identify potential features for use in biometric authentication.
- Data preprocessing: Preprocess the selected datasets to prepare them for feature extraction and machine learning analysis.
- Feature extraction: Extract relevant features from the preprocessed data, such as measures of brainwave activity in specific language processing regions of the brain.
- Authentication system development: Apply various machine learning techniques, such as support vector machines or neural networks, to identify patterns in the data and classify individuals based on their brainwave biometric data.

Overall, this project has the potential to make significant contributions to the field of biometric authentication, particularly in the use of language processing in the brain as a unique identifier.

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