Multimodal Biometric Recognition Based on Brain

Description

Verification systems are typically compromised once a human biometric, such as an iris or fingerprint, is disclosed. In comparison with these biometrics, ERP-based brain passwords(EEG) are superior since the originally stored credentials of brainwaves can be canceled if they are divulged or attacked. Since a decent public dataset is already available, we would put more effort into comprehensively analyzing how a multimodal approach can improve brainwave authentication systems.

Project Roadmap

• Review of the literature on multimodal biometric recognition
• Select the best multimodal biometric public dataset based on brainwaves
• Fuse EEG and selected traits at different levels to boost overall performance
• Investigate the effect of sessions and channels on the performance of a system
• Conduct a supplementary user study to better understand how people feel about using such systems in the future

We intend to publish the results at a conference.

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