先端科学技術研究科　修士論文要旨

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要旨

The non-stationary nature of electroencephalography (EEG) introduces distribution shifts across domains (e.g., days and subjects), posing a significant challenge to EEG-based neurotechnology generalization. Without labeled calibration data for target domains, the problem is a source-free unsupervised domain adaptation problem. For scenarios with constant label distribution, Riemannian geometry-aware statistical alignment frameworks on the symmetric positive definite manifold are considered state-of-the-art. However, many practical scenarios, including EEG-based sleep staging, exhibit label distribution shifts. To address this challenge, this thesis developed various methods to enhance the generalization of Riemannian geometry-aware statistical alignment frameworks under label distribution shifts.