



Face Anti-Spoofing Group 13

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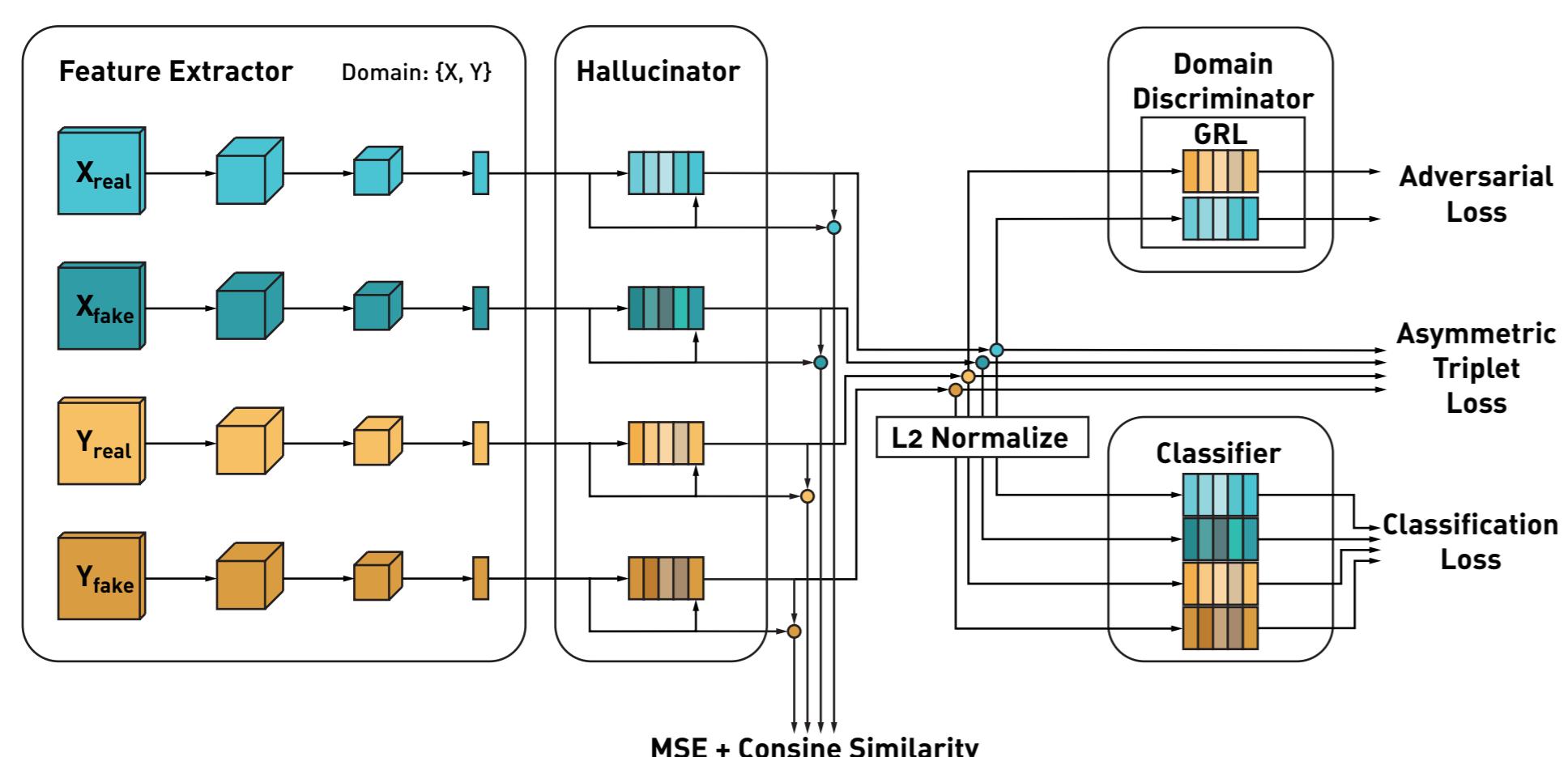
Abstract

Domain generalization ability of neural-based learning methods is considered as the key issue in face anti-spoofing. In order to deal with unseen data from unknown domains problem, we implement the single-side domain generalization framework (SSDG) and combine it with the hallucinate network in this challenge.

The SSDG concept is to learn a generalized feature space, in which the feature distribution of real faces is compact, while the fake ones is scattered among domains, but compact within each domain. Moreover, research shows that learning to hallucinate more examples is a promising direction for solving another kind of unseen data problem classification task (e.g. few-shot learning), because it has the ability to generate diverse and discriminative features conditioned on the few labeled samples.

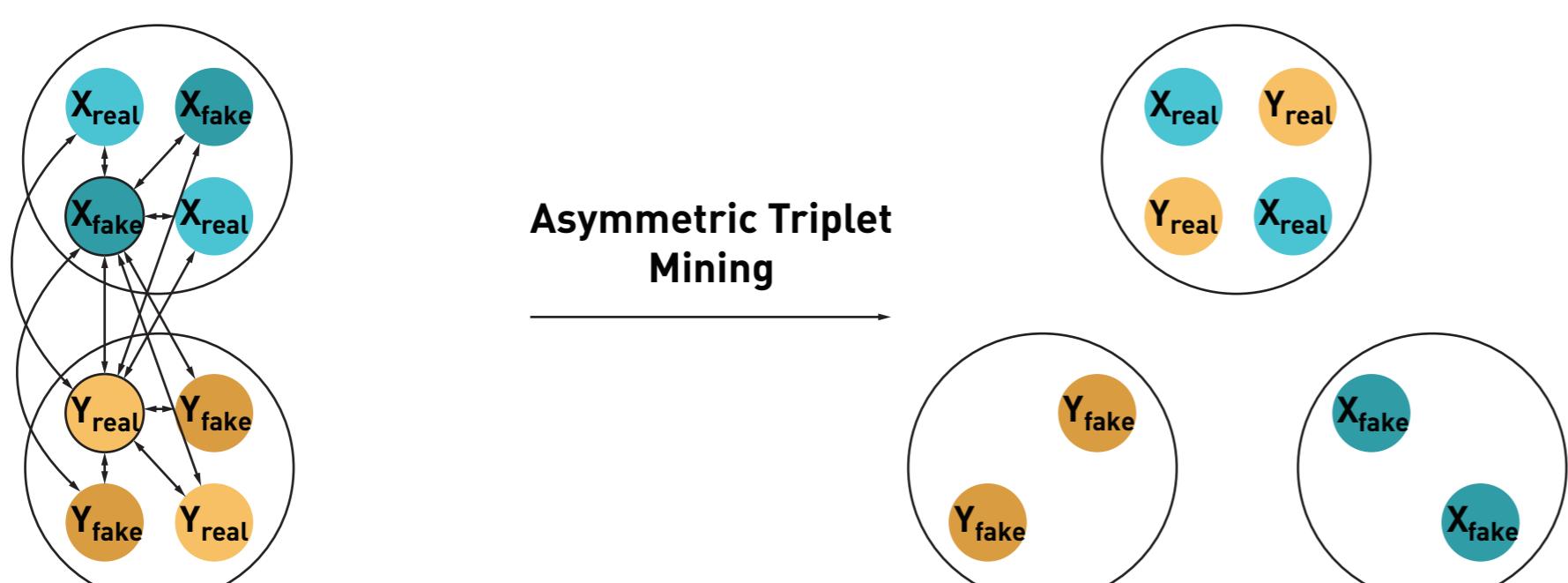
Therefore, we propose an experimental method combining SSDG and hallucinate network to enhance its domain generalization ability.

Model architecture

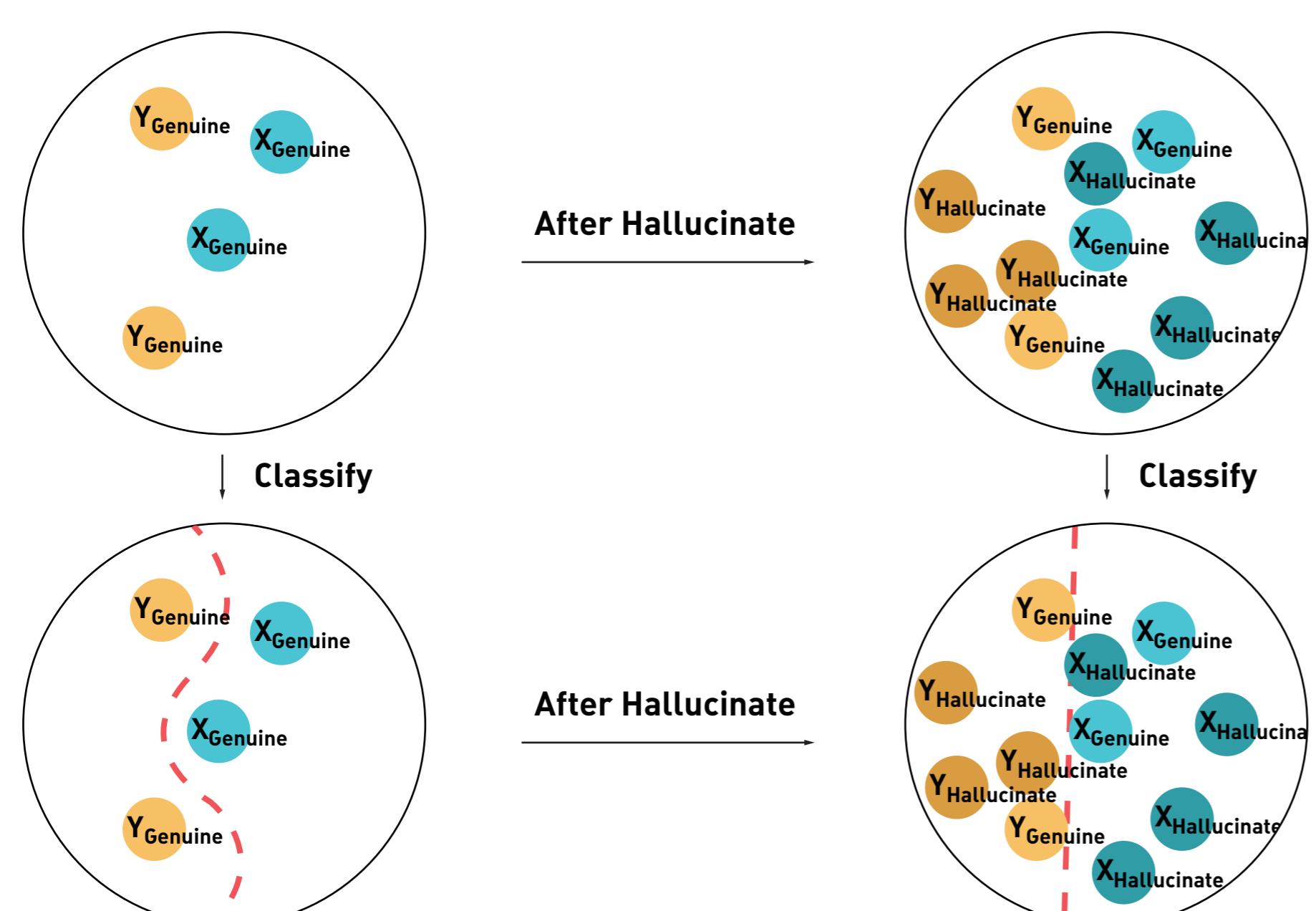


Method

Asymmetric Triplet Loss

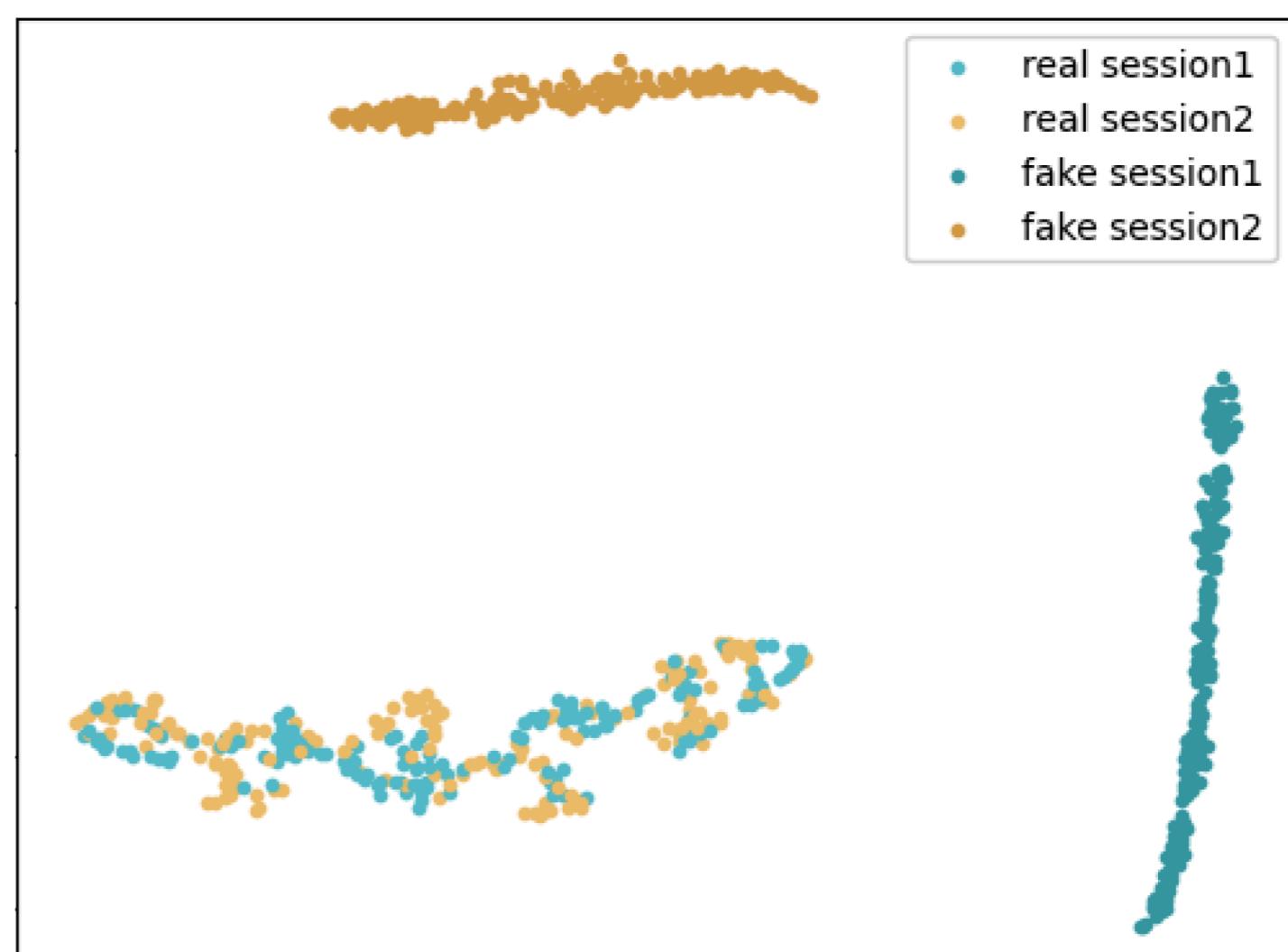


Hallucinate Network

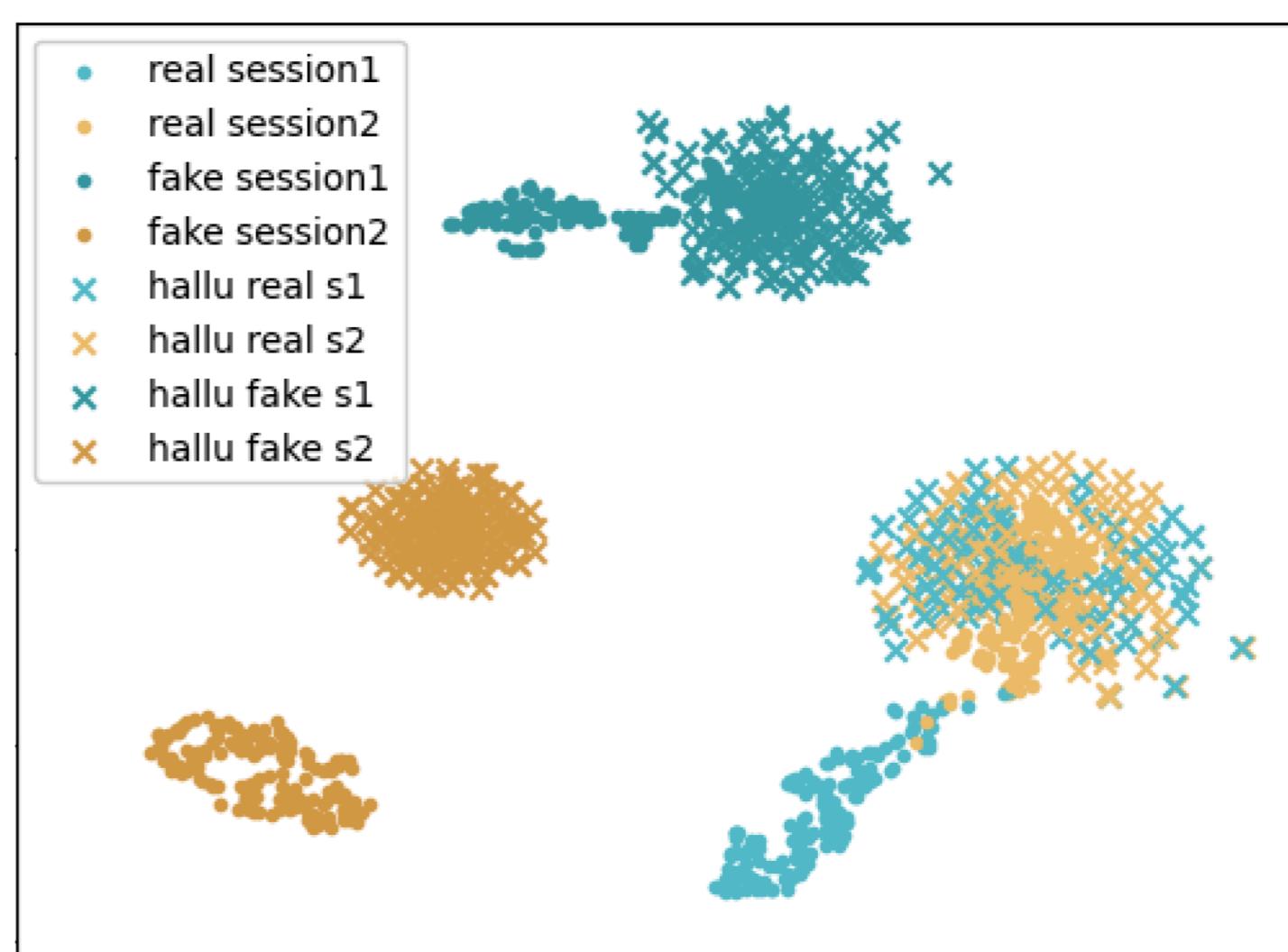


Experiment

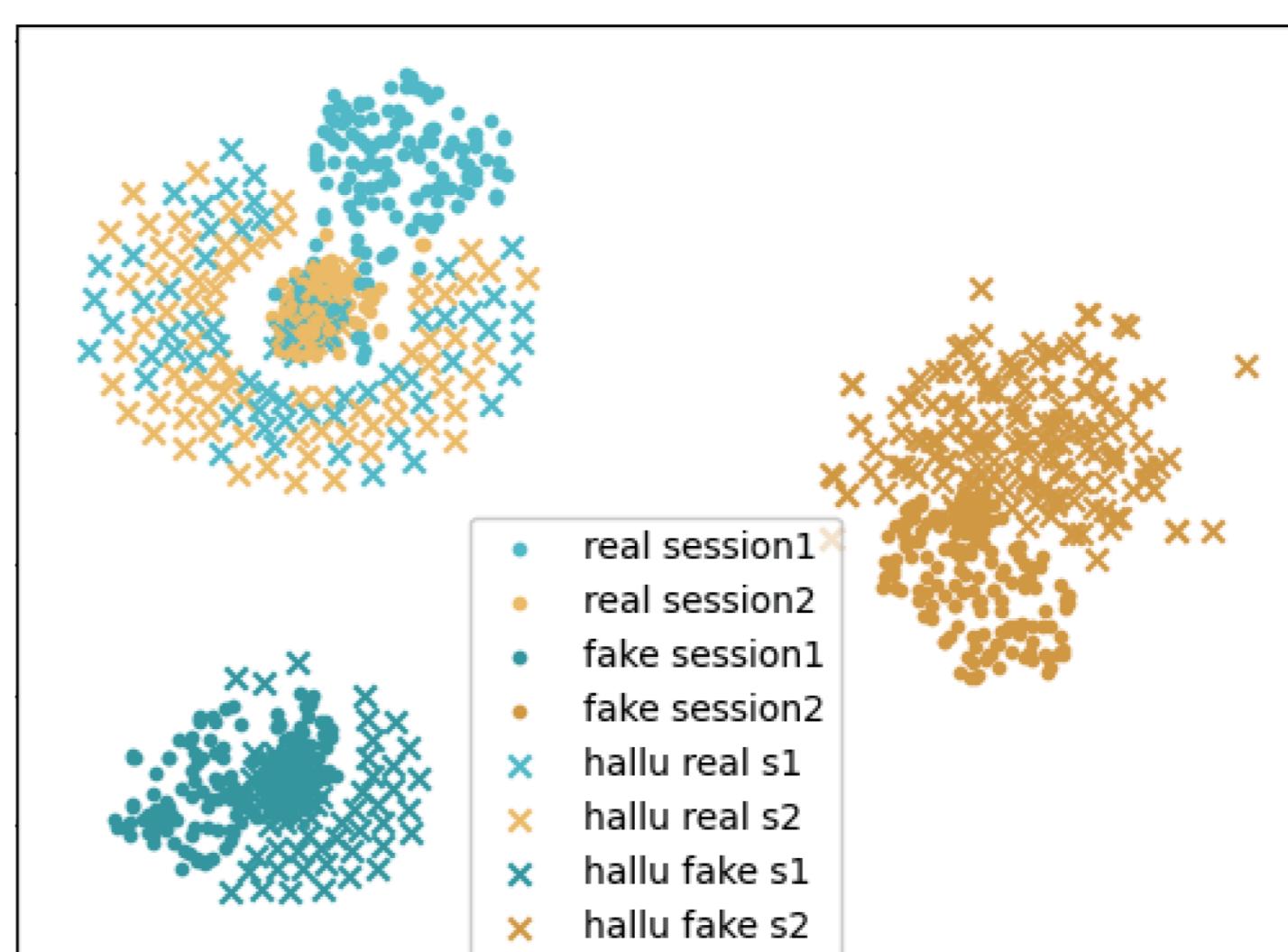
SSDG



SSDG + Hallu



Proposed



Result

	Oulu testing data (AUC)	SiW testing data (AUC)	SiW testing data (ACC)
SSDG			
SSDG + Hallu			
Proposed			