

# Universal Domain Adaptation through Self-Supervision

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## Motivation

- To account for the fact that in available literature an apriori knowledge of category overlap is needed, in this study the authors propose a universally applicable domain adaptation framework that can handle arbitrary category shift.
- As there are limitations in completely relying on source categories, the authors propose a novel technique to deal with target domain in a self supervised way.

## Novelties

- The proposed method is the first methods that accounts for universal domain adaptation without worrying about the category overlap.
- The authors deal with this problem by providing a neighborhood clustering technique along with entropy based feature alignment

## Major Contributions

- A novel algorithm that can handle arbitrary category shift.
- The authorths also show that although the information on category shift isn't provided apriori, their algorithm outperforms the baseline scores across all the settings

## Critical Analysis

- In this study, the authors provide a universal domain adaptation algorithm that can deal with no information about the category overlap.
- To do this, the authors propose a neighborhood clustering technique to learn the target domain in a Self-Supervised way. Next the authors make use of entropy based feature alignment to align target features with the source or to reject them based on the calculated entropy.
- The proposed method outperforms the baseline scores, even on some datasets depending upon the type of setting, the algorithm performs better than the state of the art models.