# A Survey on Semi-, Self- and Unsupervised Learning for Image Classification

## Shailesha Prasad Maganahalli

## (014512264)

## Abstract

The current deep learning methodologies on computer vision task depend heavily on a huge amount of labeled information. In many real-world problems, it is not feasible to create such an amount of labeled training data. Therefore, it is common to incorporate unlabeled data into the training process to reach equal results with fewer labels. Hence, it is common to add unlabeled data into training data set and preprocessing to get better results with few labels. Because of a ton of simultaneous exploration, it is hard to monitor late turns of events.

In this chosen survey report, we study an outline of regularly utilized thoughts and strategies in image classification with fewer labels. This survey is done with 25 different methods in detail learning image classification. In our investigation, we distinguish three significant patterns.

1. Cutting edge strategies are scalable to true applications dependent on their precision.

 2. The level of supervision which is expected to accomplish outcomes to the use of all labels is decreasing.

3. All techniques share normal thoughts while just a couple of strategies join these plans to accomplish better execution.

Considering these three patterns we find future examination openings.

**Survey Paper Link:** https://arxiv.org/abs/2002.08721