

Review of "Active Learning Literature survey"

Srikanth Muralidharan

November 28, 2016

This paper provides a broad introduction to the popular active learning techniques and principles that could be found in the literature. The paper starts with a couple of motivational examples for active learning, follows it up with the set of scenarios in which learner could queries, and querying strategies used in active learning. Finally, it presents with some emperical and theoretical analysis of active learning methods.

The contributions of this paper include useful insights into several of the active learning concepts. The analysis they present include:

- **Description and comparison of different query scenarios** The authors provide a clear description of popular querying scenarios, with the key assumptions involved in each of the settings, and some popular examples that employed those methods.
- **Description of different query strategy frameworks** The authors provide succinct details of commonly used query strategies. The authors first classify the query strategies into distinct non-overlapping categories. They also provide details and comparisons about each of the methods within each category.
- **Emperical and theoretical analysis of active learning** The authors provide some key insights and theoretical analysis to highlight important properties of active learning methods, backed by examples from seminal work done in active learning and some of the established theoretical concepts in machine learning.

In summary, the work provides significant contribution to computer vision research community, with large-scale diverse clean dataset, with unprecedented set of object categories related by dense hierarchies. The authors clearly demonstrate the effectiveness of having such a dataset through appropriate applications. The comparisons with previous related work are very pertinent too.