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# Active Learning

## a practical introduction

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## Introduction

- What is Active Learning?
- Informativeness

## Active learning using Libact Library

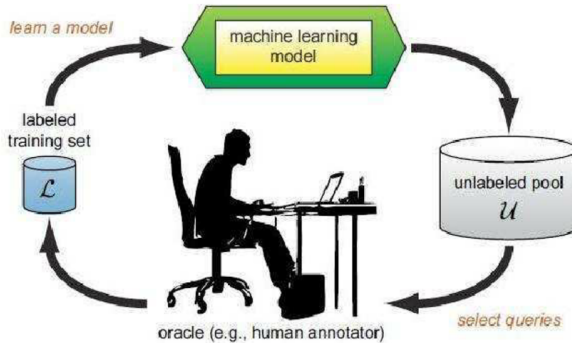
- Installation
- Required Packages
- Demo: using sample dataset

# Introduction

What is it?



Figure: Active Learning [Settles(2010)]



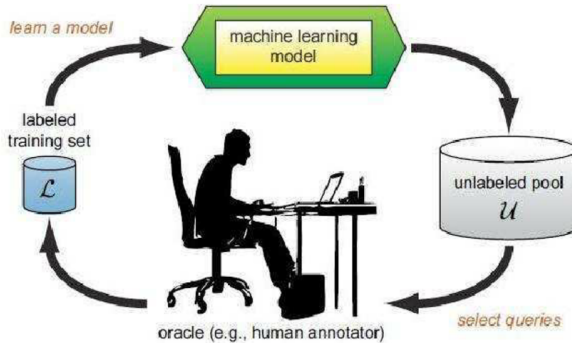
- The learning algorithm chooses the samples to be labeled image for any purposes.

# Introduction

What is it?



Figure: Active Learning [Settles(2010)]



- ▶ The learning algorithm chooses the samples to be labeled image for any purposes.
- ▶ Goal/(s): To reduce the number of labeled examples needed for



- ▶ How does the algorithm know what sample to select a.k.a Querying Techniques?



# Installation

Source files



The theme contains 4 source files:

- ▶ `beamercolorthemeFeather.sty`
- ▶ `beamerouterthemeFeather.sty`
- ▶ `beamerinnerthemeFeather.sty`
- ▶ `beamerthemeFeather.sty`



For using the Feather Theme you will need the Bemaer class installed and the following 2 packages

- ▶ TikZ<sup>1</sup>
- ▶ calc

Due to the fact that the packages are very common they should be included in your latex distribution in the first place.

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<sup>1</sup>TikZ is a package for creating beautiful graphics. Have a look at these [online examples](#) or the [pgf user manual](#) .



# Installation

Local and Global installation



The theme can be installed for **local** or **global** use.



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### Local Installation

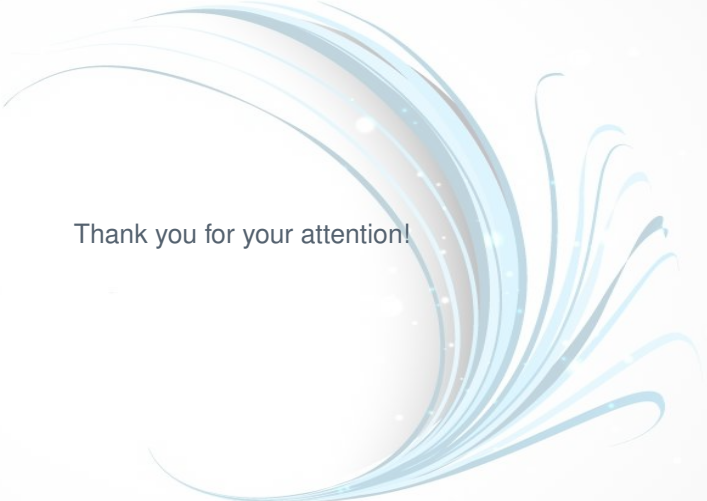
- ▶ Local installation is the simplest way of installing the theme.
- ▶ You need to placing the 4 source files in the same folder as your presentation. When you download the theme, the 4 theme files are located in the `local` folder.

### Global Installation

- ▶ If you wish to make the theme globally available, you must put the files in your local latex directory tree. The location of the root of the local directory tree depends on your operating system and the latex distribution.
- ▶ Detailed steps on how to proceed installation under various operating systems can be found at Beamer documentation.



[Settles(2010)] B. Settles.  
Active Learning Literature Survey.  
*Mach. Learn.*, 15(2):201–221, 2010.  
ISSN 00483931.  
doi: 10.1.1.167.4245.

A decorative graphic consisting of multiple overlapping, flowing lines in shades of light blue and white. The lines curve from the upper left towards the lower right, creating a sense of motion and elegance. Some lines have small, glowing white dots or sparkles along their length.

Thank you for your attention!