Traditional attribute transfer learning aims to transfer knowledge between semantically related attributes, i.e. from the same domain.

Motivation

However, what can we do if we have data scarcity, i.e. no semantically related categories?

Key idea

Transfer knowledge from attribute classifiers in unrelated domains.

Approach

hooved = \[
\begin{array}{c|c|c}
\text{woolen} & \text{natural} & \text{hooved} \\
0.7 & 0.3 & \text{?}
\end{array}
\]

\( W_{\text{attention}} \)

Take away message: Unrelated domains have valuable knowledge for learning attributes.
Asking friendly strangers: non-semantic attribute transfer

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Experimental setup

Comparison to strong baselines

- Our method's success is due to adaptive parameter transfer (learned attention weights) and a shared feature representation.

Contributions

- We show how to benefit from attributes from a domain unrelated to the target, for attribute transfer learning.