

Chapter 4 Section 3 & 4

TRANSFERRING FEATURES TRANSFERRING PARAMETERS

BOOK : Semi-Supervised Learning and Domain Adaptation in Natural Language Processing

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CHANGING FEATURE REPRESENTATION

- ▶ Divergence estimation can be used for:
 - importance weighting (introduced in the previous section)
 - feature selection or feature weighting
- ▶ When learning under bias...
 - change feature representation **to minimize divergence**

To minimize divergence

1. Multiply the random vector into columns
2. Downweighting or removing features from dataset

STRUCTURAL CORESPONDENCE LEARNING

- ▶ This builds on the following idea

While we can drop harmful or irrelevant features, we also able to introduce features specific to the target data by aligning them to known features

- ▶ This is similar to “semi-supervised approach”

TRANSFERRING PARAMETERS

- Naïve Bayes
 - transfer probabilities
- Perceptron learning
 - transfer wights
- The likelihood
 - soft constraints
 - terms in objective function assigning scores to model expectation