1. Introduction/15
   1. Image recognition review
   2. Challenge of learning new categories/our scenario
   3. Limitation of current methods
   4. Our methods
   5. Contribution of the thesis
   6. Thesis outline
2. Related work20
   1. SVM and Optimization theory for SVM
   2. Combining knowledges from different sources from other works
   3. Transfer learning for new categories under Hypothesis Transfer Learning
      1. Bayesian methods
      2. SVM methods: MKTL, Multi-KT, MULTIpLE etc.
3. Transferring from N source to N-related target20
   1. Introduction
   2. Transfer from single source
   3. Transfer from multiple sources
   4. Cross-validation closed form estimation
   5. Experiments
   6. Summary
4. Transferring to learn a new category20
   1. Introduction
   2. SMITLe
   3. Theoretical analysis
   4. Experiments
   5. Summary
5. Conclusion