

# A Unified Approach to Object Category Recognition

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Details in IEEE CVPR 2008 paper

# Object Category Recognition



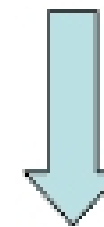
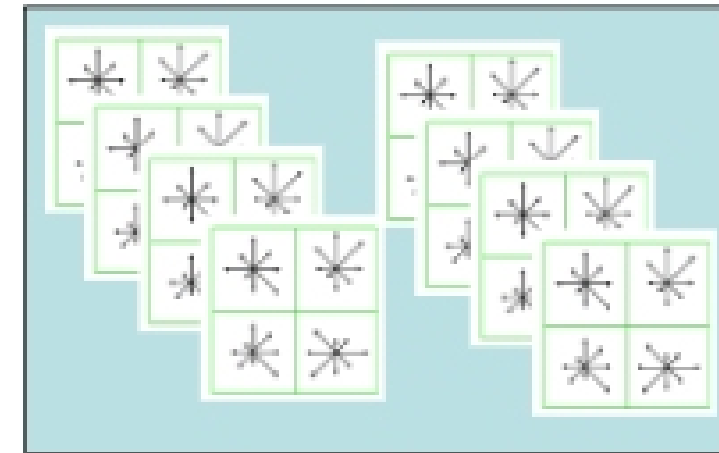
- sheep? ✗
- bus? ✓
- cat? ✗
- bicycle? ✓
- car? ✓
- cow? ✗
- dog? ✗
- horse? ✗
- mbike? ✓
- person? ✓

# Standard Approach (adopted from text IR)

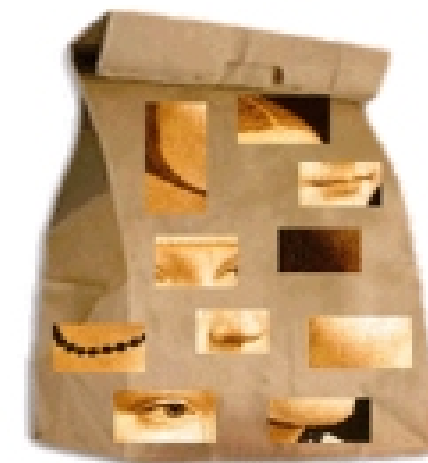
[Fei-Fei et al., 2005];  
[Sivic et al., 2005];  
and many others



Feature extraction  
and representation  
(e.g., SIFT)



Quantization  
+ histogram



"Bag of visual words"



Classification  
(e.g., SVMs)

• sheep?	✗	←	SVM
• bus?	✓	←	SVM
• cat?	✗		SVM
• bicycle?	✓		SVM
• car?	✓		SVM
• cow?	✗	⋮	SVM
• dog?	✗	⋮	SVM
• horse?	✗		SVM
• mbike?	✓		SVM
• person?	✓	←	SVM