Logo Detection in High-Motion Sports Video
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Motivation
- Measure level of visibility of a brand
- Ad pricing
- Automate annotation task

Labeling Scheme
1) Clearly Visible
2) Occluded
3) Blurry
4) Barely visible
5) Less than 33%

Basic Algorithm
Feature Matching
Find matches
Matching features
Inlier features
No
No logo present in logo set channel
Yes, No logo present in logo set channel
Feature Extraction with SIFT
HSBC

Extended Algorithm
2nd Pass to propagate features across frames
The basic algorithm does not utilize redundancy across frames.
In a single frame, may not be able to find enough features due to:
- Blurring
- Obstruction
- Frequent perspective changes

Extended Algorithm
(propagating every frame)
8 inliers
28 inliers

Extended Algorithm
(propagating only frame detected in 1st pass)
40.2%
69.3%

Experimental Results
Basic Algorithm
Extended Algorithm
(propagating every frame)
Out of range of 2nd pass (no adjacent frame detected in 1st pass)
Bottleneck: 1st pass

Extended Algorithm
(propagating only frame detected in 1st pass)
40.2%
69.3%