Efficient and Effective Similarity-based Video Retrieval

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Istanbul, Turkey, September 18-19, 2010

SHIATSU: Annotating Your Videos the Easy Way!

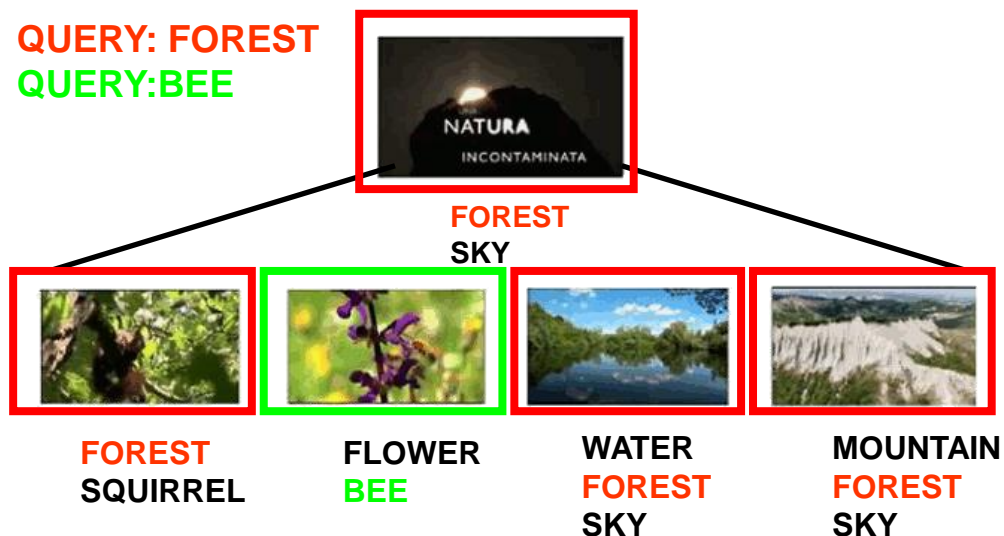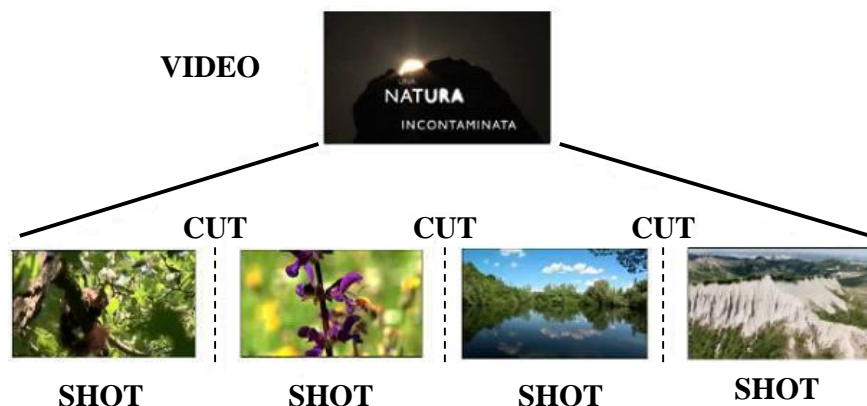## Ilaria Bartolini and Corrado Romani
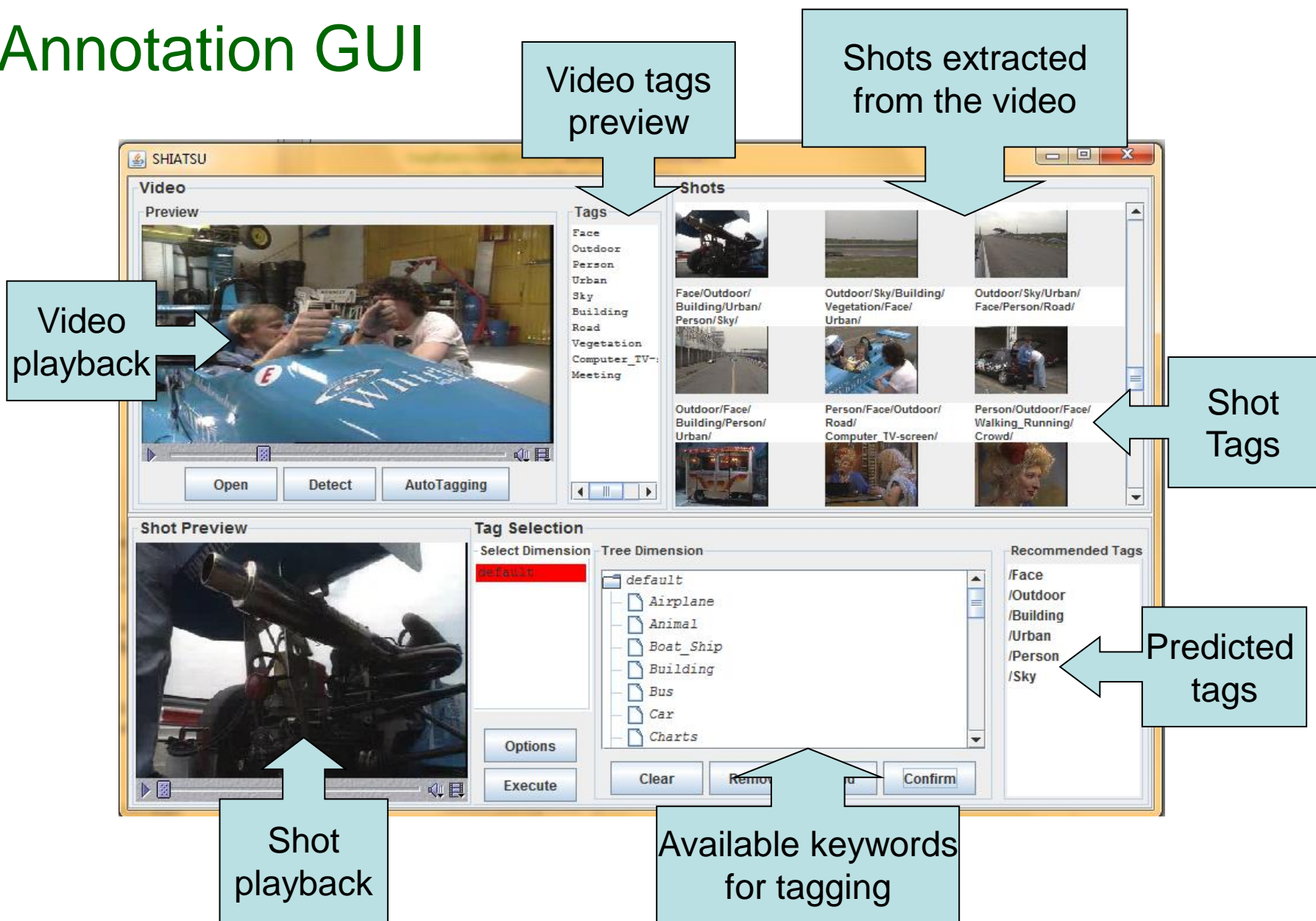
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Automatic Video Annotation

- Videos are segmented into shots (i.e., key frames sequences sharing the same visual features)

- Shots are processed in order to extract semantic labels from similar pre-annotated key frames. Most recurring shot labels are then propagated at the video level, allowing indexing of both videos and shots for retrieval purposes

VIDEO

CUT   CUT   CUT

SHOT   SHOT   SHOT   SHOT

QUERY: FOREST
QUERY:BEE

FOREST
SKY

FOREST   FLOWER   WATER   MOUNTAIN
SQUIRREL   BEE   FOREST   FOREST
                                SKY   SKY

Annotation GUI

Video tags preview

Shots extracted from the video

Video playback
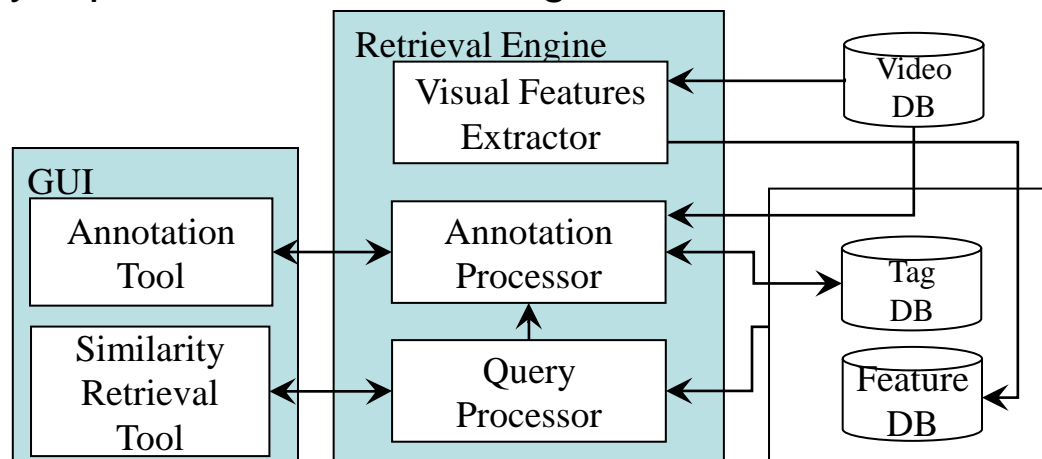
Shot Tags
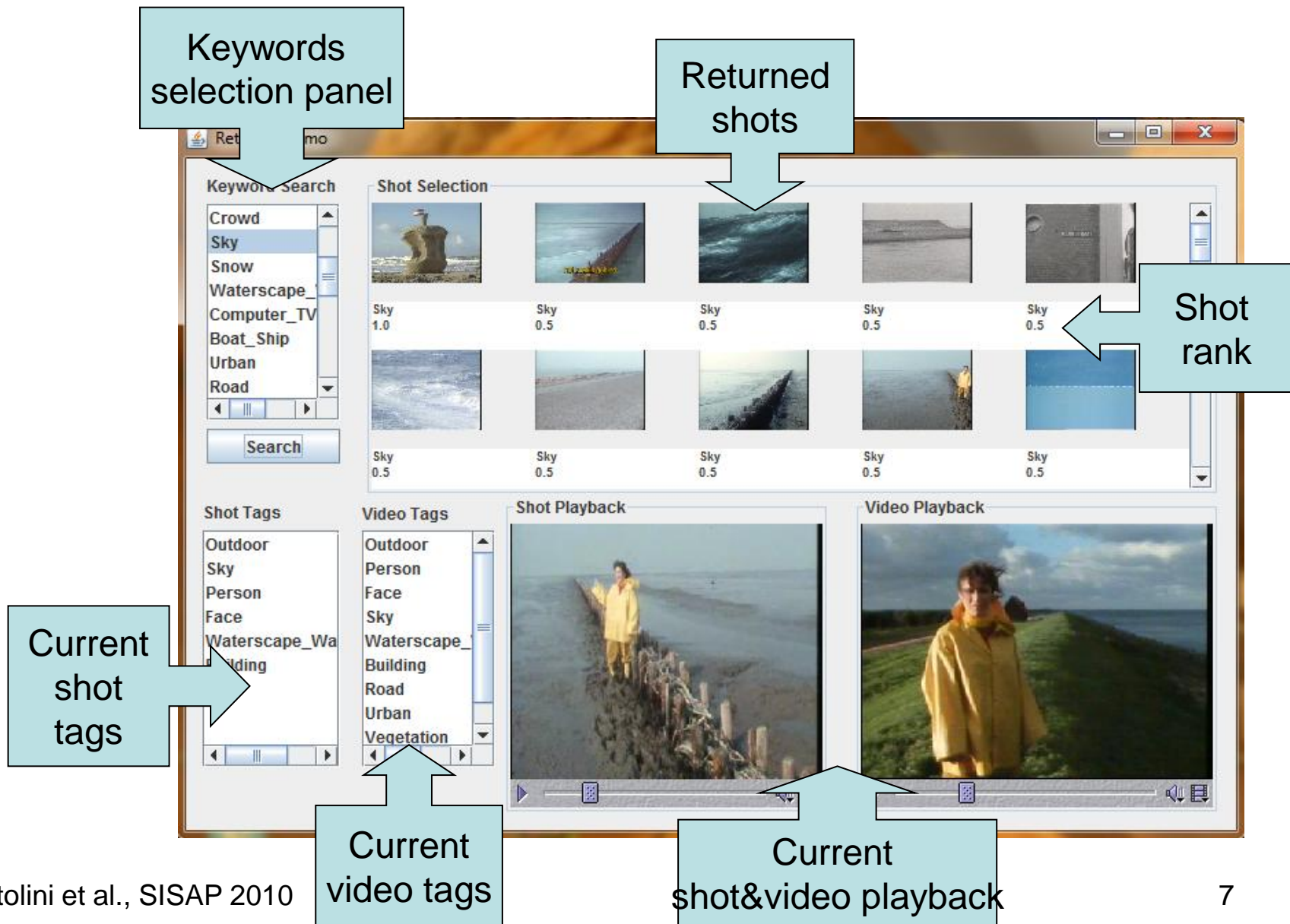
Predicted tags

Shot playback

Available keywords for tagging

Video Retrieval

- Users can search videos (both at shot and video level) through different modalities:

- **Keyword-based Search (KS)**: given a set of keywords as query semantic concepts, videos/shots are selected by applying a co-occurrence search on the Tag DB

- **Feature-based Search (FS)**: given an input query image, a Nearest-Neighbors search is performed on the Features DB

- **Keyword&Feature-based Search (KFS)**: it combines KS and FS
  - This query modality is useful when KS involves concepts which are poorly represented in knowledge base

Retrieval GUI

Keywords selection panel

Returned shots

Shot rank

Current shot tags

Current video tags

Current shot&video playback

I. Bartolini et al., SISAP 2010

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