Identifying the Geographic Location of an Image with a Multimodal Probability Density Function

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ABSTRACT

Knowing the location that a photograph was taken provides us with data that could be useful in a wide spectrum of applications. With the advance of digital cameras, and with many users exchanging their digital cameras for their GPS-enabled mobile phones, photographs annotated with geographical locations are becoming ever more present on photo-sharing websites such as Flickr. However there is still a wide majority of online content that is not geotagged, meaning that algorithms for efficient and accurate geographical estimation of an image are needed. We present a general model for using both textual metadata and visual features of photos to automatically place them on a world map. This forms the University of Southampton's entry for the MediaEval 2013 Placing task.

Keywords

Geotagging, Probability Density, Image Annotation

1. INTRODUCTION AND MOTIVATION

2. OVERALL METHODOLOGY

3. EXPERIMENTS

See table 1 for details on the configuration of the run submissions.

3.1 Run 1: Text+Visual, provided data

3.2 Run 2: Visual only, provided data

3.3 Run 3: Text only, provided data

3.4 Run 4: Text+Visual, bigger dataset

3.5 Run 5: Text+Visual, provided data with tag boosting

3.6 Results and Discussion

	Prior	Tags	CEDD	SIFT-LSH	Geonames
Run 1	✓	✓	✓	✓	
Run 2	✓		✓	✓	
Run 3	✓	✓			
Run 4	✓	✓		✓	
Run 5	✓	✓	✓	✓	✓

Table 1: The feature configuration for the run submissions.

4. CONCLUSIONS AND FUTURE WORK

5. ACKNOWLEDGMENTS