

## **Turbo-boosting the Intelligent Image**

This paper presents a large-scale object retrieval system, capable of automatically annotating multiple objects within a query image. The *intelligent image* is returned to the web interface with the objects tagged and clickable for further information.

The system builds upon the state-of-the art in object retrieval from large databases, using a bag-of-words model with spatial verification for matching. Various recent works have explored the crawling of Internet photo collections to create object databases, in particular those of landmarks. In this application, a database built from the images crawled from the online encyclopedia Wikipedia was used. However, there is a scarcity of representative images for many objects, resulting to the problem of low matching performance. We explore various improvements, including a novel external database augmentation process, dubbed *turbo-boosting*, to increase the information content of our original dataset. This method has been shown to drastically increase recognition rates, and can be applied to any labeled database of object images.