

Project #2 Local descriptor and bag of feature

Due March 17, 2014 5:00pm

Description

In this project, your team needs to work together to implement the basic bag-of-feature representation of an image based on vector quantization. Both hard and soft quantization need to be implemented in your project. You may use the [Graz02](#) dataset as a start if you have not collected your own image collection yet.

- You may build your visual vocabulary by using k-means or GMM-EM as you wish.
- You don't need to implement code for extracting local image descriptors. Instead you may use the built-in function in OpenCV.
- Your library on this part of the code will need to be integrated into the first library you build in project one.

Bonus

The team has the option to implement the supervector representation. You will get 5 points bonus if your team finish that.

What to turn in?

You should make a team report in a PDF file and name it as:

[lastname1]_ [lastname2]_ [lastname3]_ [lastname4]_ [lastname5]_ PROJ2.pdf

For your program, you may use any programming language. However, your submission should include the executable, the source code, and a detailed readme file on how to run it. You should have a detailed report in the written part of your homework on what you have tested and what are the results you obtained. Please make sure you packed additional dependent libraries, if any, used in your program. If your program cannot run, you lose 0.5 point automatically.

Package your PDF file with the code and supplementary Readme file in a single ZIP file as:

[lastname1]_ [lastname2]_ [lastname3]_ [lastname4]_ [lastname5]_ PROJ2.zip

and please submit it through the Moodle system.

Grade: 10% with bonus

Late submission policy applies universally with no exception.

If you have a compelling excuse, you must inform me at least 2 days before the due date. I don't accept excuses such as **"I am overloaded by other courses"**.