

UNIVERSITY OF CRETE
DEPARTMENT OF COMPUTER SCIENCE

Multimedia Technology

Spring 2018

6th assignment

A couple of frames is given and it is asked to decompose in blocks of variable size the absolute value of the frame difference according to a quad-tree structure. The threshold for splitting is fixed at 0.2 of the maximum of the absolute difference. Give the decomposition and the resulting image. Maximum block size is the whole image and the minimum is 4×4 . How many bits are needed for encoding the quad-tree?

Then it is asked to do the same decomposition, but after estimating the motion vector of the variable size blocks by block matching, according to the quad-tree structure. Find the average value of the absolute displaced frame difference after motion compensation for all pixels lying in blocks with non-zero motion vector.

The work report and the results should be given in HTML.

Useful Matlab functions : qtdecomp, qtgetblk, qtsetblk.

Data :

http://www.csd.uoc.gr/~hy474/data/road_0.png,

http://www.csd.uoc.gr/~hy474/data/road_1.png