



ifis

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Multimedia Databases

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Homework: Sheet I

- Minkowski distance
 - HSV transformation: `rgb2hsv`
 - 3 histograms
 - Quantize with `gray2ind`
 - One histogram per image
 - $H=\{0..17\}, S=\{0..2\}, V=\{0..2\}$
 - **$H*9+S*3+V$**



Homework: Sheet I

- Image similarity





Homework: Sheet 2

- Granularity Extraction

- Granularity extraction is time consuming – optimization possibilities:

- Use the **sum** function from Matlab to add the values in the neighborhood areas e.g.,

- $E_1 h(i,j) = \text{sum}(\text{sum}(G(i:i+1, j:j+1))) - \text{sum}(\text{sum}(G(i:i+1, j-2:j-1)))$;

- Divide outside the for

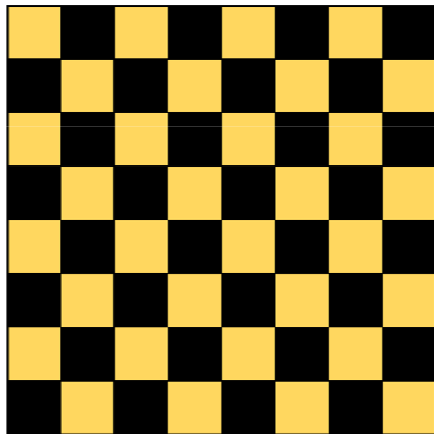
$$A_k(x, y) = \sum_{i=x-2^{k-1}}^{x+2^{k-1}-1} \sum_{j=y-2^{k-1}}^{y+2^{k-1}-1} \frac{f(i, j)}{2^{2k}}$$



Homework: Sheet 2

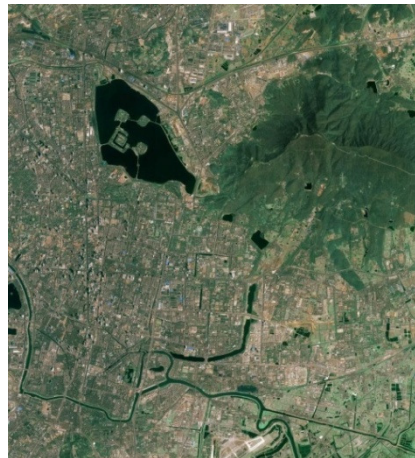
- Granularity Extraction
 - Observations

768*1024



34,5106

931*851



58,2276

3708*5159

