# Image Interpolation & Superresolution (IV)

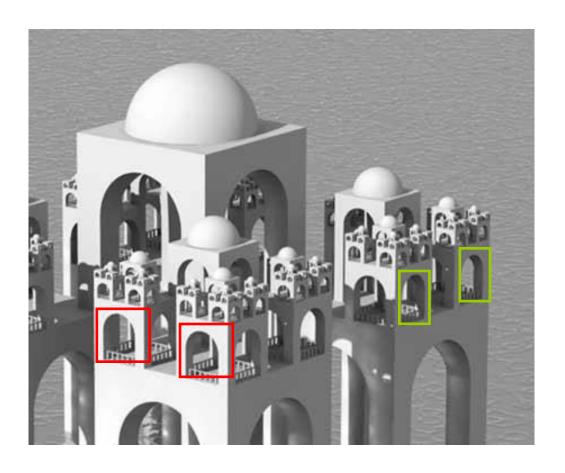
Dr. Xiqun Lu

College of Computer Science

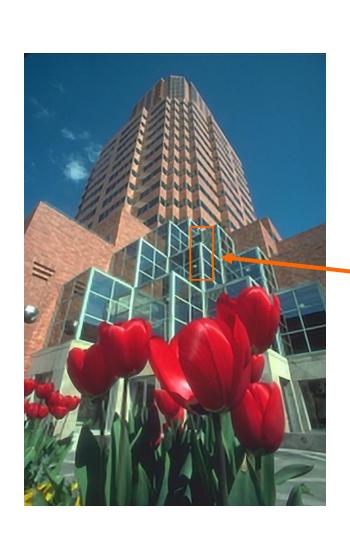
Zhejiang University

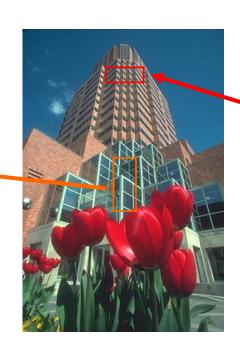
#### Superresolution from a single image [3]

• Self-similarity in natural images



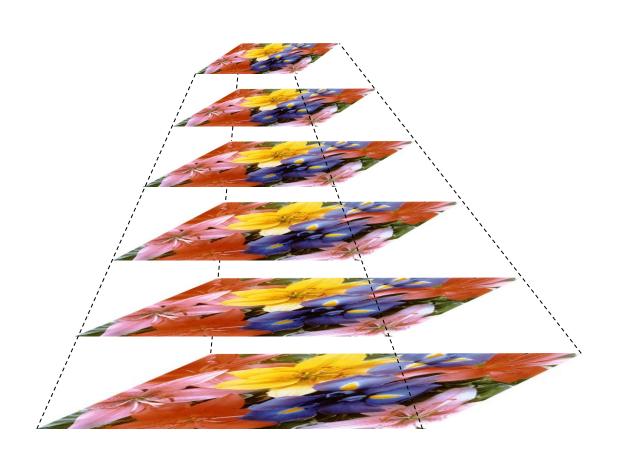
## Self-similarity among different spatial scales



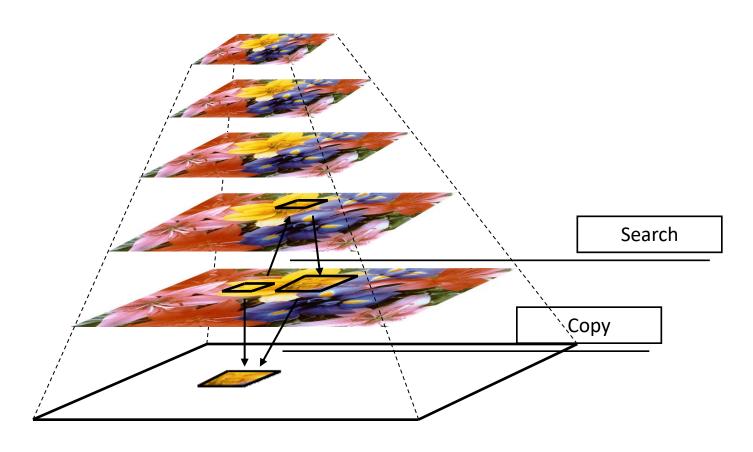




### Gaussian Pyramid

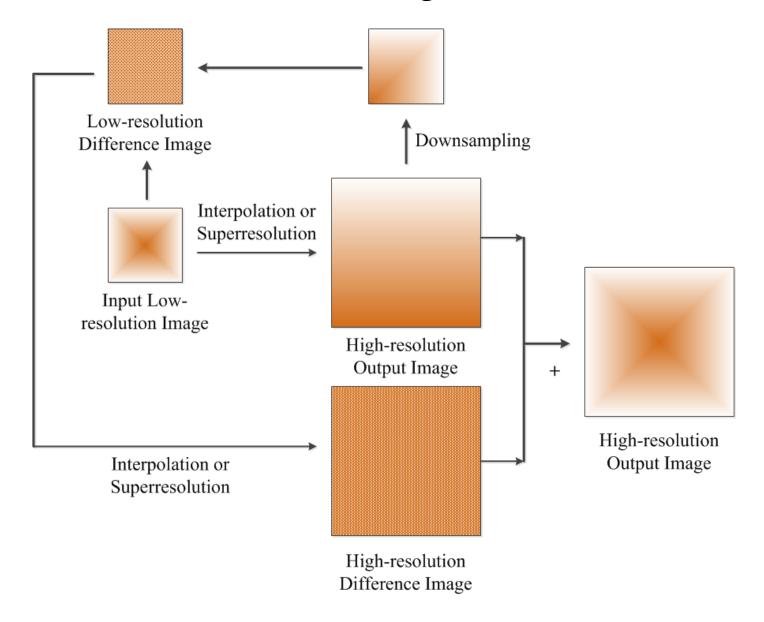


### Looking for similar blocks among different scales

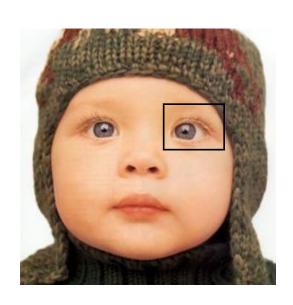


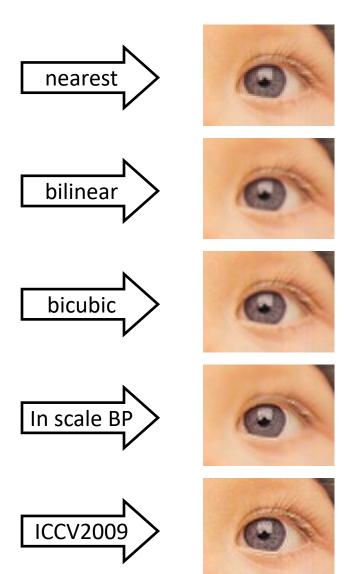
Back-projection

#### **Back-Projection**

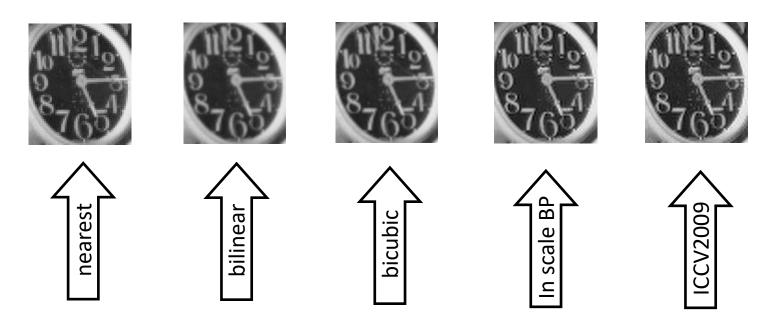


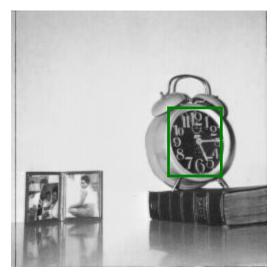
#### Experimental Results (I)

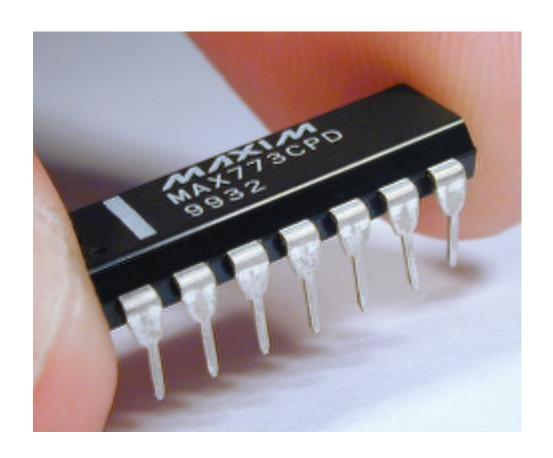




#### **Experimental Results (II)**







130 32 3 CTO

nearest

bilinear

bicubic

in scale BP

ICCV2009

clear

#### References

• [3] D. Glasner, S. Bagon, and M. Irani, "Super-resolution from a single image," In Proc. of ICCV, 2009.

#### Thank You!

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