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Numerical Programming

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AP#3

AP#3: image resizing and interpolation

Problem 3.1

- resize image using interpolation algorithms.
- Methods to be used: a) nearest neighbor or bilinear b) bicubic or biquadratic interpolation

Tasks

- Select two methods, explain your approach in written.
- Select an image for which at least one of your methods works fine.
- Select another image for which your methods do not produce good results.
- Apply matrix norms for error estimation.
- Perform numerical experiments, zoom selected image several times. Draw conclusions and explain why your method works in one case and why it does not work in another case.
- For setting up test problem you can select high resolution image and downsize it.

AP#3

Important Notice

- AP assigned 0 points if:
  - a model problem (image or video etc.) provided twice by students. Make sure, your model is different from models given by others.
  - submitted results are not reproducible.
  - student cannot apply his own code for the input data provided by TA or instructor.
- Submission deadline: 2 weeks after the date of AP publication.