Fundamentals of Imaging Exercitations

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SS 2019

Important dates

- Fridays 11:00-12:30
- Every 15 days
- Starting 26.04.2019

26.04 today; choose theme (till Wed)
10.05 Presentations (3 groups)
24.05 Presentations (2 groups)
07.06 void
21.06 3 implementation presentations
05.07 2 implementation presentations
09.07 Deadline for delivery (23:59)

Choose implem. theme on next tuesday

Passing requirements

- 70% final exam, 30% exercises
- You have to pass the exercises to access the final exam.

Assignment(s)

- Groups of 2 students
- Choose topic
- Prepare a presentation (ca. 20 minutes)
  - Do the presentation
- Implement things
- Document implementation (4-5 pages)

Assignment(s)

- Implementation:
  - C/C++,Java,Python
- Write your own code (but you can use libraries to read/write images)
- Source code must be readable!
  - Comment code well!!!
  - Anyone reading your source code must be able to understand what is happening
- Deliver the following archived as a zip file:
  - Code
  - Documentation
  - All 3 files you must put Name, matriculation number, SS19 example: Paulho-Coelho-98765-SS19.zip

Themes

- All the implementations will handle picture quality assessments methods!
- From the Wang&Bovik book:
  Wang, Bovik, “Modern Image Quality Assessment”, Morgan & Claypool, 2006.

Themes

- 1. Bottom-Up Full-Reference Image Quality Assessment
  - Daly Model, Lubin Model and SafranekJohnson Model
- 2. Bottom-Up Full-Reference Image Quality Assessment
  - Teo Heeger Model, Watsons DCT Model and Watsons Wavelet Model
- 3. Top-Down Full-Reference Image Quality Assessment
  - Structural Similarity Approach
- 4. Top-Down Full-Reference Image Quality Assessment
  - Information-Theoretic Approach
- 5. No-Reference Image Quality Assessment
- 6. Reduced-Reference Image Quality Assessment

I will set up a Doodle page so that you can register...

Exercitations

- Responsible for the exercitations: myself
  - caw[at]uni-weimar.de

- Final Mark: 30% exercise, 70% lecture
- A pass of the exercitations is prerequisite for attending the exam.

- Start of Exercitations: Fr 26.4.19, 11:00, HK7

Literature

- Lee, *Introduction to Color Imaging Science,* Cambridge University Press
- Wong, Bovik, *Modern Imaging Quality Assessment*, Morgan Claypool
- Fu, *Color Imaging. Fundamentals and Applications,* AK Peters
- How do I find the documentation? I do not know!

Infos

- http://www.uni-weimar.de/medien/cg