2009 Autumn semester Pattern Information Processing

Course guide

Instructor

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Office hours

> 5. and 6. periods on Wednesdays

Subject

Digital image processing has been recently getting familiar to us in our daily life, for example images communication via the internet, the digital broadcasting, the third generation mobile phone, etc. However, usual textbooks about image processing often omit detailed explanation of the mathematical background of image processing for the sake of restriction of page length. This course will focus on four topics of digital image processing techniques with the mathematical background required for understanding these techniques.

Grading

At the end of each topic, a report will be requested. Students are requried to read a paper concerning the topic, summarize it with your comment, and submit the report with a copy of the paper at the beginning of the next session. Students must write their reports *in English.* No examination is assigned.

References

M. Petrou and P. Bosdogianni, *Image Processing The Fundamentals,* Wiley, `ISBN0-471-99883-4`
> This book explains the fundamentals of image processing very simply with rich amount of examples, and is outstanding in its plain explanation. This book is also interesting in its style: all sections are written in the question-and-answer form.

A. K. Jain, *Fundamentals of Digital Image Processing,* Prentice Hall, `ISBN0-13-336165-9`
> This book is not so simple as the above one, however, contains detailed explanations of background mathematics.

Handouts

No textbook is used. The handout for each session is uploaded on the web site shown below until its previous session (one week before the corresponding session) for your convenience of preparation. Please print and bring it to the class every week.

Web site and email address

`http://laskin.mis.hiroshima-u.ac.jp/Kougi/09a/PIP/`
`asano@mis.hiroshima-u.ac.jp`