

Kick-off Meeting

Winter Semester 2022/2023

Saarland University
Chair for Clinical Bioinformatics

29th November, 2022

HIPS



Thanks for enrolling!

General information

How to pass the courses

Certificate requirements:

1) Successful presentation:

- Talk: **30 minutes** for a proseminar and **40 minutes** for a seminar (large deviations in either direction negatively affect the grade)
- Discussion: at least **5 minutes** during which you should be able to answer questions from the tutors and the audience (it is highly recommended to ask questions)

2) Attendance to all presentations is **mandatory**

3) Submitting a summary report:

- Short description / summary of the topic you presented
- Main structure: title (page), main text (with or without subsections), references
- Only include relevant figures, tables or formulas
- Ca. **2 pages** of pure text, excluding title (page), figures, table, references, etc.
- It is recommended to write the report using \LaTeX to train scientific writing

Grading

Final grade:

- Primarily based on the given presentation & follow-up discussion
- Might be influenced by the quality of the submitted summary report

For clarification:

	Study program	Credit points
Proseminar	Bachelor's only	5CPs - graded
Seminar	Master's only	7CPs - graded

Seminar: Biomedical Image Analysis

About this course

What are we looking at?

- Images (CT/MRA/MRI/PET SCAN/X-ray)
- Methods (to analyse and process the images)

What are we interested in?

- Non-invasive diagnostics
- Rich information content
- Recent technological progress

What are the main methods used?

- Machine Learning / Deep Learning techniques (e.g. Neural Networks)
- Digital filtering
- Histogram analysis

Distributed Topics

Student	Topic
Jis Kochuniravathu Saji	1) Multi-landmark environment analysis with reinforcement learning for pelvic abnormality detection and quantification
Aisiri Srinivasa	2) Vessel-CAPTCHA: An efficient learning framework for vessel annotation and segmentation
Sreeja Chidambaram	3) UNETR: Transformers for 3D Medical Image Segmentation
Nazlıgül Keske	4) A U-Net Ensemble for breast lesion segmentation in DCE MRI
Samet Özcan	5) Unsupervised brain imaging 3D anomaly detection and segmentation with transformers
Asha Babu	6) Fuzzy Gray Level Difference Histogram Equalization for Medical Image Enhancement
Srinath Balasundaram	7) Contour proposal networks for biomedical instance segmentation
Sadaf Amirmaki	8) QSobel:A novel quantum image edge extraction alg.

Course Schedule

Event	Time	Comments
Registration Deadline	November 20, 2022	-
Kick-off meeting (mandatory)	Today	Remote
Deadline to register in HISPOS or de-register from seminar (mandatory)	December 20, 2022	3 weeks after the kick-off meeting
Deadline for feedback (optional)	February 19, 2023	~1 week before the presentations
Presentations	February 28, 2023	Place: E2 1, R206
Summary submission deadline (mandatory)	March 07, 2023	1 week after the presentations

Dos & Don'ts

Dos (How to give a good scientific presentation)

Most importantly:

Practice!

But also:

- Try to reduce the amount of text
 - Prevent showing entire sentences
 - Use figures or visualisations provided by the literature (high resolution, appropriated font size)
 - Add slide numbers
- You should be able to explain everything that is shown on you slides
- Proof-read your slides
- **Ask for feedback** or formulate questions whenever you are stuck (you have the chance to get 2 times feedback from us but only if we receive your slides by email before the deadline on February 19th)
- During your presentation **speak freely**

Don'ts (How you will not pass the course)

Do not:

- Show formulas that you cannot elaborate further
- Rely only on visualisations from the assigned paper
 - Use e.g. Inkscape to draw own figures or search for further literature (do not forget to reference these)
- Change layouts / formatting too often
- Deviate from you time constraint
- Send us a large list of vague questions
- Ignore our comments on your slides
- Ignore the recommended literature
- Forget to provide references
- Assume a superficial understanding suffices

Further material and reading

We expect you to:

- Read our presentation guidelines (+ example slides):
<https://www.ccb.uni-saarland.de/wp-content/uploads/2017/01/guidelines.pdf>
- Work through the presentation checklist before sending us your slides (ignoring it may negatively impact your grade!):
https://www.ccb.uni-saarland.de/wp-content/uploads/2014/09/presentation_guidelines.pdf
- Independently use the available literature to enhance your knowledge on the assigned topic (take a look at our **recommended reading** literature on the course site!)