

Software-Engineering Seminar, Winter 2023/24

AG Programmiersprachen
FB Informatik
RPTU Kaiserslautern-Landau

Supervisors

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Goals

- Learn an interesting topic in SE
- Read and understand scientific papers explaining the topic
- Learn how to present the topic

Your tasks

You work in teams of two participants each. You get one topic, either based on an existing paper or on a section of Okasaki's book "Purely Functional Data Structures".

- Read and understand the paper/material
 - You can get a copy of "Purely Functional Data Structures" in the CS library.
- Search for additional material on the topic
- Write a paper
 - Language: English (Bachelor: may be in German)
 - Use our Latex template
 - 10-15 pages (Bachelor: 7-15 pages), both team members contribute equally
 - Easy to read for other students
 - Present the problem and motivation of the work
 - Present the solution
 - You may add critique
- Presentation
 - 20 minutes presentation (10 minutes per team member)
 - about 10 minutes discussion and questions (know your topic!)

Schedule

- First draft of paper: seven weeks before presentation (30.11./07.12./14.12.2023)
- Presentations
 - Thursday, 18.01.2024, 08:15 - 09:45 in 32-439
 - Thursday, 25.01.2024, 08:15 - 09:45 in 32-439
 - Thursday, 01.02.2024, 08:15 - 09:45 in 32-439
- Final paper: 09.02.2024

All deadlines: End of the day 23:59.

Submissions: As pdfs by email to your supervisor

The topics cover functional data structures.

1 Numerical representations: 18.01.2024

- 1** Idea of numerical representations and random access lists (chap. 9.1, 9.2.1)
- 2** Binomial heaps and skew binomial heaps (chap. 3.2, 6.4.1, 9.3.2)
- 3** Finger trees (paper)

2 Lazy evaluation and amortisation: 25.01.2024

- 1** Fundamentals (chap. 5)
- 2** Lazy evaluation and amortisation (chap. 6)
- 3** Eliminating amortisation (chap. 7+8)

3 Data structural bootstrapping: 01.02.2024

- 1** Catenable lists (chap. 10.2.1)
- 2** Optimal priority queues (chap. 10.2.2)
- 3** Tries (chap. 10.3, paper)

How to fail a seminar?

- Plagiarism
- Late submissions
- Not attending final presentations
- Poorly written paper
 - Fail to convey the concepts
 - Incomprehensible English
- Bad presentation
 - Fail to convey the concepts
 - Unable to answer any questions
- Never talk to your supervisor
- Do not use a spell checker