Assignment 4

Research Assignment
Spring 2023 (2-01-02)

The research assignment is an important part of the PSE course. The list of research topics is given below. Please take note of the following instructions first:

- You should email me your topics of choice – as a prioritized list of **three** topics – **by Wednesday 14 Tir**.
- Each of the topics is either intended for one student, or a team of two. The number in parentheses shows the default size of the research team for each topic. Students who intend to work alone are allowed to select a team topic, but they should realize that they will be expected to work harder (you will get extra points, however).
- If you'd prefer to work on a topic other than those listed below, you can include it on your list of selected topics; if the title of your proposed topic is not expressive enough, a proper explanation of the topic should also be provided.

The topics will be assigned to individuals/teams **by Thursday 15 Tir**. A research starter package for each of the topics has been made available **here**; each package contains several resources that are intended to start you off on your research. Please note that you may not need to use all of these resources; on the other hand, you will **definitely** need to complement them with more recent resources. You should also study the list of references at the end of each resource for other potential resources.

1. Machine Learning Design Patterns: Survey and Analysis (2)
2. Patterns for Developing Multi-Agent Systems: Survey and Analysis (2)
3. Patterns for Self-Adaptive Systems: Survey and Analysis (2)
4. Security Patterns: Survey and Analysis (2)
5. Pattern Mining: Survey and Analysis (2)
6. Model Transformation Patterns in Model-Driven Engineering: Survey and Analysis (1)
7. Patterns for Game Development: Survey and Analysis (1)
8. Patterns for Cloud Computing: Survey and Analysis (1)
9. DevOps Patterns and Antipatterns: Survey and Analysis (1)
10. Pattern-Oriented Software Development: Survey and Analysis (1)
11. Patterns for User Interface Design: Survey and Analysis (1)