

The Intersection of AI and Software Engineering Education

Supervisor: Nuno Pombo (<u>ngpombo@di.ubi.pt</u>)

Co-Supervisor: Sofia Ouhbi (Uppsala University, Sweden)

Objectives

The integration of Artificial Intelligence (AI) in software engineering education marks a transformative shift in pedagogical approaches. By leveraging AI tools, students can engage in hands-on, real-world problem-solving experiences, simulating the challenges they may encounter in professional settings. Al-driven systems facilitate personalized learning experiences, adapting to individual students' progress and providing tailored feedback. Moreover, AI can enhance the assessment process by automating grading and evaluation, allowing educators to focus on more qualitative aspects of teaching. Additionally, incorporating AI in software engineering education enables students to gain practical insights into emerging technologies and industry trends, preparing them for the dynamic landscape of software development. As AI continues to advance, its integration in education not only enhances the learning process but also equips future software engineers with the skills and adaptability needed to thrive in an Al-driven world. With this project, our objective is to conduct a comprehensive case study on the application of AI tools, specifically designed to empower students within the realm of software engineering. By leveraging Al-driven solutions, we seek to enhance the learning experience, providing students with practical and tailored tools that facilitate a deeper understanding of software engineering concepts.

Keywords

Web programming, web services, software engineering.

Workplan

The workplan encompasses complementary tasks as presented below:

- T1 Technological background study (0.5 months);
- T2 Requirements analysis (0.5 months);
- T3 Design and development (1 month);
- T4 Testing and evaluation (1 month);
- T5 The writing of the report (1 month).

	March	April	May	June
T1	Χ			
T2	Χ			
T3		Χ		
T4			Χ	
T5				Χ

Required Skills

Hard skills: Programming and software engineering skills.

<u>Soft skills</u>: Creative, proactive, responsible, resilient, willing to learn, and able to work in a team.

Deliverables

In this project work the following deliverables are expected:

- A validated computational tool;
- A report describing the method and the validation results.