

PhD Thesis Project Offer

(valid during the calendar year 2025)

Provisional Title of the Doctoral Thesis

Assessment and Feedback of Computational Thinking Learning

Subject area* / Research line

Engineering and Architecture / Information and Communication Technologies

Summary of the Doctoral Thesis (maximum 300 words)

Computational thinking is a mental process that allows us to formulate, analyze, and solve problems efficiently, using concepts and techniques specific to computer science. It is a fundamental skill in today's world, as it allows us not only to better understand how computers and technology work, but also to apply that knowledge in our daily lives to make more informed decisions and solve problems more creatively. One way to develop computational thinking skills is through programming. Therefore, in recent years, visual programming environments suitable for children and young people have been developed. Through these environments, they can create projects, which can be evaluated with tools traditionally used by software engineers, but not exclusively. This thesis proposal aims to advance the evaluation and feedback process of computational thinking learning based on projects created by learners using data mining techniques, artificial intelligence, recommendation systems, among others. The thesis can be approached through the construction of software tools or through fieldwork in schools and institutes.

Is the development of this thesis associated with the execution of any research project? If so, provide details of the project (title, funding entity, and execution period)

No.

Academic Profile of the Student (maximum 200 words)

A technology background (e.g., telecommunications engineer or computer engineer) is preferred, although this could be extended to other profiles interested in the subject. The student should have programming experience (even basic).

Contact: institutional email of the Supervisor

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Institutional Website of the Supervisor

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* See the Subject Areas at <https://www.urjc.es/informacion-practica#oferta-proyectos-de-tesis>. **Each project should be included in only one subject area.**