PhD Thesis Project Offer

(valid during the calendar year 2025)

Provisional Title of the Doctoral Thesis

Mining Modeling Diagrams in Software Repositories

Subject area* / Research line

Engineering and Architecture / Information and Communication Technologies

Summary of the Doctoral Thesis (maximum 300 words)

Software is not just code, but also many other elements. Among these, we find diagrams that capture software models, such as UML. This type of information, despite its importance, has not been adequately studied scientifically, due to the difficulty in finding diagrams, as well as their diversity. The objective of this thesis project is to investigate the modeling diagrams existing in software repositories, particularly open source software found on GitHub, to generate more knowledge about them, including, among other questions, which ones are used, how they are used, whether they evolve with the code, and how repositories can best adapt to this type of diagrams.   For inspiration, you can find more information in the following open source article: Gregorio Robles, Michel R. V. Chaudron, Rodi Jolak, Regina Hebig: A reflection on the impact of model mining from GitHub. Inf. Softw. Technol. 164: 107317 (2023). Disponible online en: https://www.sciencedirect.com/science/article/pii/S0950584923001726?via %3Dihub

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 engineering or computer engineering) is preferred, although this could be extended to other profiles interested in the subject. Advanced programming and Python skills are required.

Contact: institutional email of the Supervisor

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Institutional Website of the Supervisor

* 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.**