PhD Thesis Project Offer

(valid during the calendar year 2025)

Provisional Title of the Doctoral Thesis

Effort Estimation from Data in Software Repositories

Subject area* / Research line

Engineering and Architecture / Information and Communication Technologies

Summary of the Doctoral Thesis (maximum 300 words)

Effort estimation is one of the most complex (and widely studied) tasks in software engineering. Software development companies typically know the effort dedicated to developing software and are interested in understanding the effort they will have to dedicate in the future. However, with the rise of free software, it is difficult to quantify the effort dedicated to existing software due to the large number of authors (usually volunteers or from different companies) who have participated. This thesis aims to develop a new effort estimation model based on activity data found in software development repositories (usually a Git repository) and compare it with classic methods such as COCOMO, as well as with other sources. To this end, the model proposed in the following publication should be developed:

Gregorio Robles, Andrea Capiluppi, Jesús M. González-Barahona, Björn Lundell, Jonas Gamalielsson: Development effort estimation in free/open source software from activity in version control systems. Empir. Softw. Eng. 27(6): 135 (2022). Disponible en https://link.springer.com/article/10.1007/s10664-022-10166-x

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.

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