
Performance prediction of configurable systems using machine learning

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Résumé

Modern software systems are being more and more configurable to adapt to a maximum of requirements coming from different users.

This is done by adding new functionalities to the software and letting users decide whether they need them; thus creating a configuration of the system tailored for their specific use.

Yet, being able to manage such a system and have a clear view of its capabilities is difficult as the number of possible configurations increase exponentially with the number of newly added functionalities.

A way to gain insights about these capabilities (e.g., execution time or memory consumption) is to use a Machine Learning (ML) model that can predict these capabilities without executing the configuration of the system.

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