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Discovering Repetitive Code Changes in Python ML Systems

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Abstract: *Over the years, academics have automated numerous software evolution jobs by taking advantage of the repetitive nature of software modifications. Python-based machine learning systems have become extremely popular, yet they do not profit from these developments. without specifying are the frequent updates made by ML developers, the missed chances for automation by academics, tool and library designers, and the failure of ML developers to understand and adhere to basic coding practises. We conducted the first and most thorough study on code modification trends across a broad corpus of 1000 top-rated ML systems totaling 58 million SLOC in order to close the knowledge gap and enhance the science and tooling in ML software evolution. We repurpose, modify, and enhance cutting-edge repetitive change mining approaches to carry out this investigation. R-CPatMiner, our cutting-edge tool.*

CCS CONCEPTS, Software and its engineering, Software maintenance tools; Computing methodologies, Machine learning

Keywords: Refactoring, Repetition, Code changes, Machine learning, Python

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