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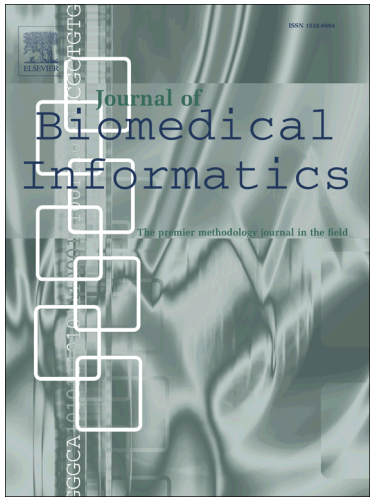

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Improving Condition Severity Classification with an Efficient Active Learning Based Framework

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Keywords
Active Learning, Electronic Health Records, Phenotyping, Condition, Severity.

List of Abbreviations:
CAESAR: Classification **A**pproach for **E**xtracting **S**everity **A**utomatically from Electronic Health **R**ecords
CAESAR-ALE: Classification **A**pproach for **E**xtracting **S**everity **A**utomatically from Electronic Health **R**ecords – Active Learning Enhancement
EHR: Electronic Health Record
AL: Active Learning
SVM: Support Vector Machines
VS: Version Space
SNOMED-CT: Systemized Nomenclature of Medicine-Clinical Terms
ICD-9: International Classification of Diseases - Version 9
SVM-Margin: Support Vector Machines-Margin Method - an existing AL method oriented towards acquiring informative conditions that lie closest to the separating hyperplane (inside the margin).
Exploitation: An AL method included in the CAESAR-ALE framework that is oriented towards acquisition of severe conditions.
Combination_XA: An AL method included in the CAESAR-ALE framework that combines elements of the Exploitation method and the SVM-Margin method, so that it applies a hybrid acquisition strategy for enhanced improvement of the CAESER method.

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