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Kelas : 4B Teknik Informatika

Jurnal	Information and Software Technology (Elsevier, Q1)
Judul	COSTE: Complexity-based OverSampling TEchnique to alleviate the class imbalance problem in software defect prediction
Bidang	Machine Learning / Software Engineering
Topic	Class Imbalance Problem In Software Defect Prediction
Metode yang ada	Synthetic Minority Oversampling Technique (SMOTE), Borderline-SMOTE, Majority Weighted Minority Oversampling Technique (MWMOTE), and MAHAKIL.
Masalah	Class imbalance in software defect prediction (SDP) data causes the model to be overly biased towards the majority class, making it difficult to find defects in the minority class.
Metode yang diusulkan	COSTE: Complexity-based OverSampling TEchnique
Diagram alir penelitian	<pre>graph TD     ID[(Imbalanced dataset)] -- "Apply 5-fold cross-validation" --&gt; CV[ ]     subgraph CV_Box [ ]         direction LR         TI[Training instances] --&gt; TD[(Training dataset)]         TD -- "Apply sampling techniques (SMOTE, Borderline-SMOTE, MWMOTE, MAHAKIL, COSTE)" --&gt; BD[(Balanced dataset)]         BD --&gt; PM[Prediction models]         TI --&gt; TInst[Testing instances]         TInst --&gt; TSD[(Testing dataset)]         TSD --&gt; Out[Outcomes]         Out --&gt; CPM[Compute performance measures]         PM -- "Train classifier (KNN, SVM, RF, MLP)" --&gt; CPM     end     CV_Box -- "Repeat 10 times" --&gt; Avg[Averages of each performance measure]</pre>
Dataset	23 datasets from PROMISE repository (eg: Ant, Camel, Ivy, JEdit, Log4j, Poi, Synapse, Xalan, Xerces).