Non-Parametric Modelling for Automatic Detection of Performance Changes

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Methodology of Detecting Performance Changes between Project Versions

New Post-Processors: Regressogram, Moving-Average, Kernel-Regression

Non-Parametric Modelling

- 7 methods for optimal regressogram bucket number
- 3 Moving-Average methods: SMA, SMM and EMA
- 5 supported kernel types: Epanechnikov, Normal, Tricube, etc.
- 3 supported kernel regression methods: local-linear, local-polynomial, spatial-average
- 4 methods for optimal kernel bandwidth: cross-validation, AIC, Scott’s/Silverman’s Rules

Experimental Evaluation: vim

<table>
<thead>
<tr>
<th>Model</th>
<th>v8.0 - v7.4</th>
<th>v8.0 - v8.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>MA</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>KR</td>
<td>12%</td>
<td>6%</td>
</tr>
</tbody>
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