



Call for papers

Journal of Empirical Software Engineering

Special Issue: Repeatable Results in Effort Estimation

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DESCRIPTION:

Software project effort estimation is undeniably important. Consequently it has been the subject of intense research activity leading to many methods of building prediction systems and many empirical studies evaluating competing systems. For practitioners to benefit from this research we require repeatable results.

To date, the evidence that we can find repeatable results is contradictory. For example, consider the task of ranking different effort estimation methods. References [1,2] (see below) argue that such rankings vary according to:

- a) what data sets are used;
- b) what random numbers select train/test sets;
- c) and what evaluation criteria and procedures are used to evaluate the results.

With the exception of reference [3], below, we know of no effort results that contradict this "conclusion instability" problem. This is troubling since if research cannot identify and avoid inferior effort estimation methods, then industrial practitioners face an overwhelming number of alternate (and possible not validated) effort estimation methods. The aims of the issue are to:

- i) Review past work: i.e. make progress towards the goal of sense making of the empirical research results to date. Submissions in this category might include systematic reviews of conclusion (in)stability in effort estimation.
- ii) Document new work; e.g. propose more effective methods of comparison between the points a, b, c shown above (or other dimensions of comparison); or conduct further empirical comparisons that are exemplars of good practice
- iii) Explore the industrial needs related to conclusion stability. For example, how accurate do our rankings of methods need to be to support industrial decision making (e.g. is there some "good enough" ranking that would suffice). Submissions in this category might include case studies from industry.

Hence we are seeking to put together a *focused* special issue of cutting edge papers that offer new insights into how we may progress this challenge.

Relevant papers will discuss one or more of:

- reporting protocols
- evaluation mechanisms
- data sets
- replication

- technology transfer issues (e.g. is there some "good enough" result of the kind mentioned above)
- reviews of conclusion stability/instability results seen in other software engineering fields.

IMPORTANT:

Please note we do not seek papers that propose yet another method of generating prediction systems without also considering, in depth, repeatability of results. We strongly prefer papers that are based upon data that are accessible to other researchers. Therefore it is suggested, (but it is not mandatory) that researchers either:

- Base their submissions on existing estimation data at the PROMISE repository <http://promisedata.org/?cat=14>
- Or submit new data (that they use for their submission) to the PROMISE web site.

TIMETABLE:

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| Dec 7, 2010: | Paper deadline |
| Dec 15, 2010: | Skim for relevance (the editors will reject papers that are out-of-scope) |
| March 2011: | Notification of review results |
| June 2011: | Revision deadline |
| Late 2011: | Publication (dates, TBD) |

SUBMISSION:

Submissions must not be under review elsewhere. Submissions that are an extension of a previously published conference paper or other output must be accompanied by a note to the editors explicitly identifying the previous paper, the proportion of new material and why the work merits a journal publication. All manuscripts should be submitted in accordance with <http://www.springer.com/computer/swe/journal/10664> (see the heading "Instructions for Authors"). In addition to the Springer Instruction, we require structured abstracts for all submissions, see <http://www.dur.ac.uk/ebse/abstracts.php>.

REFERENCES:

- 1 Shepperd, M.; Kadoda, G.; , "Comparing software prediction techniques using simulation," IEEE TSE, 27(11), 1014-1022, 2001
- 2 Myrtveit, I.; Stensrud, E.; Shepperd, M.; , "Reliability and validity in comparative studies of software prediction models," IEEE TSE, 31(5), 380-391, 2005
- 3 Menzies, T. ; Jalali, M.; Hihn, J.; Baker, D.; Lum, K.; , "Stable Rankings for Different Effort Models ", Journal of Automated Software Engineering, Dec, 2010, to appear. URL: <http://menzies.us/pdf/10stable.pdf>