

### Introduction

During the last few years, a large number of researchers from the software engineering discipline are focusing on applying computational intelligence techniques such as searching heuristics, data mining or statistics to their research. Problems such as planning and decision making in software engineering, finding patterns of defective modules, effort estimation, test case generation, knowledge extraction, etc. can be reformulated using a set of techniques under the umbrella of soft-computing which includes searching and optimization meta-heuristic techniques, data mining, fuzzy logic, probabilistic techniques such as Bayesian networks (probabilistic graphical models). These techniques, already used extensively in other fields, are incrementally being applied in software engineering.

The objective of this workshop is to steer discussion and debate on the application of such computational intelligence techniques to the software engineering field in its widest sense as well as to open research directions in this field.

### Motivation

There is a large number of decisions during the development and maintenance of any software system. For a project to be successful project managers need first to estimate effort and size as accurately as possible, but also different architectures and designs need to be evaluated, etc. During coding and testing there are also multiple decisions on intermediate artefacts. Soft-computing can help with the decision making process based on the information available (for example, estimation and planning of projects) or with the generation of artefacts (for example, automating the test case generation).

This workshop focuses on how soft-computing techniques can help with decision making process in all areas related to software engineering. Currently, there are multiple repositories of project data that can be used for estimation or corroboration of project management decisions. Furthermore, modern development environments allow us to collect large amount of data during the executing of a project for real-time decisions. The extraction of information from such large datasets or repositories is not however free of problems and how to deal with such problems is another topic of interest of this workshop.

### Topics of interest

- Studies, applications and tools to extract information from software repositories.
- Soft Computing, Data Mining, System Dynamics and meta-heuristics techniques applied to Software Engineering.
- Search based Software Engineering
- Software mining
- Modelling of software repositories.
- Analysis of the quality repositories (e.g. unbalanced datasets, noise, feature subset selection, etc.)

### Coordinators

- José C. Riquelme, University of Seville
- Roberto Ruiz, Pablo de Olavide University
- Daniel Rodríguez, University of Alcalá



### Publication

There is no need for original work (the objective is to create a forum of discussion) and the maximum paper length should not exceed 12 pages using LNCS template. Please submit your proposal to [robertoruiz@upo.es](mailto:robertoruiz@upo.es) and [daniel.rodriguez@uah.es](mailto:daniel.rodriguez@uah.es).

- Paper submission: 10 July 2009
- Notification: 17 July 2009
- Camera ready paper: 24 July 2009
- Workshop: 8 September 2009

### Programme Committee

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