

RAISE 2012

Workshop on Realizing Artificial Intelligence
Synergies in Software Engineering
In Conjunction with ICSE 2012
<http://promisedata.org/raise/2012>



This workshop brings together researchers from the AI and SE communities in order to explore the interdisciplinary synergies which exist and to stimulate collaboration and future research across the disciplines. The workshop is both timely and opportunistic, and will help to promote a new community with interdisciplinary research directions.

Motivation

As SE is asked to answer dynamic, automated, adaptive, and/or large scale demands, other computer science disciplines come in to play. AI is a discipline that may bring SE new benefits. Conversely, SE can also play a role in alleviating development costs and the development effort associated with AI tools. Such mutually beneficial characteristics have appeared in the past few decades and are still evolving due to new challenges. One example of an AI technique missing in SE is the application of cognitive psychology to the creation of knowledge acquisition tools.

On the other hand, SE has resulted in tools and methodologies that can build large and complex systems. Prior research in AI suffered from too many prototypes and not enough deployed systems. We assert that SE has much to offer AI about systems engineering and scalability of methodologies. Hence, we propose this RAISE crossover workshop where the state of the art in both fields is documented and extended. Thus this workshop will explore not only the application of AI techniques to software engineering problems but also the application of software engineering techniques to AI problems.

Topics of interest

In particular, we wish to stimulate discussion, thoughts and subsequent collaboration on the following themes applied to software engineering:

- Testing and quality assurance
- Spectra-based software diagnosis
- System dynamics and simulation models
- Software metrics applied to AI techniques
- Rapid prototyping and scripting for AI techniques
- Cost analysis and risk assessment in software projects
- Software for knowledge acquisition and representation
- Knowledge representation, ontologies, reasoning and other semantic aspects in software engineering
- Software specification, design, integration and requirement engineering
- Assessing the quality of datasets (imbalance, noise, missing values, etc.)
- Cognitive psychology for requirements engineering and knowledge engineering
- Machine Learning, Optimisation and Computational Intelligence techniques

Workshop Organiser

Rachel Harrison, Oxford Brookes University, UK

SQJ Special Issue Editors

Tim Menzies, West Virginia University, USA
Marjan Mernik, University of Maribor, Slovenia

Workshop Co-chairs

Pedro Henriques, University of Minho, Portugal
Daniel Rodríguez, University of Alcalá, Spain

Local Organiser

Daniela da Cruz, University of Minho, Portugal

Publicity Chair

Shih-Hsi "Alex" Liu, California State University, USA

Proceedings

Maria João Varanda Pereira, Polytechnic Institute of Bragança, Portugal

Keynote

Mark Harman, UCL.

Important Dates

Paper submission: **17 Feb 2012**
Notification of acceptance: **19 March 2012**
Camera ready paper: **29 March 2012**
Workshop date: **5 June 2012**

Publication

Papers should be submitted via EasyChair:
<https://www.easychair.org/conferences/?conf=raise12>

Ten position papers will be chosen for 15 minute presentations followed by approximately 5 minutes of critical discussion from the attendees. Position papers will be distributed to attendees prior to the workshop. Following presentation of the position papers, the participants will be split into two Working Groups, and each will be given a specific question to focus on, taken from the workshop themes.

Following the workshop the authors of the best papers will be invited to extend their position papers into full journal papers, for a Special Issue of the **Software Quality Journal**, edited by Tim Menzies and Marjan Mernik.



Programme Committee

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