Journal of Systems and Software
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Special Issue:

“Software Cybernetics: Controlling Software Systems in the Big Data and Cloud Era”

With the advent of new computing paradigms, communication and control technologies, software systems are required to be more and more autonomic, collaborative, self-adaptive and evolutionary. The sustainability of software product and the quality of delivered services imposes greater impact to the various perspectives of people’s economic activities, national defense, scientific research and social life. In particular, when software services and systems are operating in an open and volatile environment, such as the Internet. In order to make software work as expected in a dynamic environment with constantly changing user requirements, the software must be aware of the changes, and be adaptive according to the external input and the feedback of the application system. Here, we provide a forum on the theme of “Controlling Software Systems in the Big Data and Cloud Era”.

This special section emphasises both current and emerging practices integrating software engineering and control theory. The Guest Editors welcome reviews and case studies on state-of-art research, state-of-practice experience, and even ‘seat-of-the-pants’ novel ideas if well defined and practical.

Topics

Tentative list of topics of emphasis will include, but not limited to, the following:

- Modelling of cyber-physical systems
- Modelling of mission critical applications
- Formalisation of control mechanisms in software engineering
- Adaptation of control theory principles to software engineering
- Integration of software, networking and control
- Situation-aware, self-adaptive software
- Decision-making in software engineering
- Control in fault-tolerant computing and security
- Adaptive testing and test case generation
- Control of adaptive software rejuvenation
- Relationship between simulation and controllability
- Adaptive system design and architecture
- Modeling of evolving and dynamic environments
- Services modeling, testing and evaluation
- Practice and experience of SaaCS
- Machine learning for SE
- Case studies on software cybernetics
Submission Information

We welcome high quality submissions that are original work, not published or currently submitted elsewhere. Authors should follow the information posted at [http://www.elsevier.com/journals/journal-of-systems-and-software/0164-1212/guide-for-authors](http://www.elsevier.com/journals/journal-of-systems-and-software/0164-1212/guide-for-authors) to prepare and submit their manuscripts.

Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2015</td>
<td>Paper submission deadline</td>
</tr>
<tr>
<td>March 1, 2015</td>
<td>Due date of first round review</td>
</tr>
<tr>
<td>April 1, 2015</td>
<td>First-round notification</td>
</tr>
<tr>
<td>June 1, 2015</td>
<td>Deadline of revised submission</td>
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<tr>
<td>August 1, 2015</td>
<td>Due date of second round review</td>
</tr>
<tr>
<td>September 1, 2015</td>
<td>Final notification</td>
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Guest Co-Editors (Alphabetical order)

Professor Selmin Nurcan,
University Paris 1 Panthéon-Sorbonne
Centre de Recherche en Informatique (CRI)
France

Professor Eric Wong,
Dept of Computer Science,
University of Texas at Dallas,
USA

Professor Hongji Yang,
Centre for Creative Computing,
Bath Spa University,
UK

For any inquiries about this special issue, please contact Professor Hongji Yang at h.yang@bathspa.ac.uk.