

Call for papers

Special Issue on "Big Data Software Engineering"

Editors

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One of the major “disrupts” to the practice and theory of software engineering is the recent widespread availability of Big Data methods. Big Data methods facilitate extracting valuable information from data in order to use it in intelligent ways such as to revolutionize decision-making in businesses, science and society. Big Data may open up radical new ways and unprecedented opportunities of attacking software engineering problems. Already now forums, forges, blogs, Q&A sites, and social networks, provide a wealth of data that may be analyzed to uncover new requirements, provide evidence on usage and development trends of application frameworks, or to perform empirical studies involving real-world software developers. In addition, real-time data collected from mobile and cloud applications may be analyzed to detect user trends, preferences, and optimization opportunities.

It is hence time to ask just how does access to large data sources and large CPU farms affect how we reason about software projects. Accordingly, we seek papers that discuss topics that include, **but are not restricted to**, the following:

- **The Big Data hype:** Is Big Data truly new? Or just only wine in new bottles? Does it clarify or confuse analysis methods?
- **Success (or Failure) stories:** If we want to boast about the value of Big Data, or warn about its drawbacks, what case studies should we document?
- **Big data for software engineering:** Opportunities that Big Data technology offers to software engineering, both in research and practice
- **Software engineering for big data:** What are the software engineering challenges imposed by building Big Data software systems?
- **Privacy, Security and Trust Implications of Big Data:** Is Big Brother is watching too little? Too much? Implications?
- **Big Data for run-time monitoring and adaptation of software systems.** Big real-time data offers novel opportunities for real-time planning and decision making and thus supports new directions for software adaptation.
- **Big Data for software quality assurance and diagnosis.** With the significant increase of data volumes as well as analytics capabilities for large volumes of structured and unstructured data, software analytics faces new opportunities in the Big Data area.
- **Software architectures and languages for Big Data.** Apart from large, long-standing batch jobs, many Big Data queries involve small, short and increasingly interactive jobs. What kind of new architectures (or languages) are required for these new environments?
- **Quality and cost-benefit of Big Data software.** Due to the size of data, exhaustive testing of Big Data products may quickly become infeasible. What to do? Also, not all data sources may be relevant for a big data analysis task. So how we assess the cost-benefit of Big Data software a-priori (as opposed to an after-thought)?
- **Curriculum for Big Data.** How should future software engineering curricula look like in order to deliver big data software engineers?

Submission Instructions

Papers should be submitted through the Empirical Software Engineering website (<http://www.editorialmanager.com/emse/>). Choose "SI: Big Data" as the Article Type.

If you have questions/comments or would like to volunteer to be a reviewer of the papers, please contact the guest editors: luciano.baresi@polimi.it, tim.menzies@gmail.com or andreas.metzger@paluno.uni-due.de.



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