

Model Checking for Dependable Software-Intensive Systems

Co-Chairs:

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Model checking is indispensable in the development of modern digital circuitry and is emerging as a valuable instrument for software verification. Model checking has uncovered errors in a variety of software-intensive systems, including spacecraft redundancy management, aircraft collision avoidance, and weapons control systems. The approach offers the potential to help ensure behavioral properties and eliminate catastrophic errors in software systems that require high levels of dependability.

While it offers significant promise for dependable system analysis, model checking faces a variety of technical and practical challenges that must be overcome. These range from theoretical questions relating to optimal analysis approaches, to implementation constraints like state explosion, to adoption issues faced by a development organization.

This full-day workshop will be a forum for sharing research results, practical experiences, and advances in the application of model checking as a software engineering tool. All of the sessions of the workshop will be interactive. In these sessions, attendees and presenters will discuss, identify, and detail the state of the technology and the technical advantages, limitations, and critical research areas impacting the effective use of model checking in dependable software-intensive systems design and analysis.