

Foundations of the Bandera Abstraction Tools

NASA Technical Reports Server (NTRS), et al., John Hatcliff



Foundations of the Bandera Abstraction Tools

By John Hatcliff

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ****** Print on Demand ******. Current research is demonstrating that model-checking and other forms of automated finite-state verification can be effective for checking properties of software systems. Due to the exponential costs associated with model-checking, multiple forms of abstraction are often necessary to obtain system models that are tractable for automated checking. The Bandera Tool Set provides multiple forms of automated support for compiling concurrent Java software systems to models that can be supplied to several different model-checking tools. In this paper, we describe the foundations of Bandera's data abstraction mechanism which is used to reduce the cardinality (and the program's state-space) of data domains in software to be model-checked. From a technical standpoint, the form of data abstraction used in Bandera is simple, and it is based on classical presentations of abstract interpretation. We describe the mechanisms that Bandera provides for declaring abstractions, for attaching abstractions to programs, and for generating abstracted programs and properties. The contributions of this work are the design and implementation of various forms of tool support required for effective application of data abstraction to software...



READ ONLINE [8.73 MB]

Reviews

Without doubt, this is actually the greatest operate by any writer. It is really basic but surprises within the 50 percent of the ebook. I discovered this ebook from my i and dad recommended this ebook to understand.

-- Mrs. Chelsea Hintz

This ebook will never be straightforward to get started on looking at but really fun to read. It is amongst the most incredible publication i have got read through. I realized this pdf from my i and dad encouraged this publication to learn.

-- Mrs. Anya Kautzer