Formal Methods for Parallel Programming: Theory and Applications

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Formal methods allow specifications of parallel and distributed programs to be precisely stated and the conformance of an implementation to be verified using mathematical techniques. These methods are especially important in parallel and distributed programming where the inherent non-determinism makes testing ineffective. Formal methods can be used in the development of individual programs and effective tools are becoming available that help to automate the verification task. Foundations for frameworks can be developed that, while requiring no proofs by the programmer, are guaranteed to result in programs with certain properties. These approaches provide significant leverage to a formal analysis.

This year FMPPTA will be held in association with IPDPS for the 7th time and attracts participants from both academia and industry, who use and/or develop formal methods for parallel or distributed programming. The association with IPDPS allows participants to take part in a workshop focused on formal methods as well as interact with researchers in the broader parallel and distributed processing community. We are looking forward to a stimulating and enjoyable workshop and would like to thank all authors who submitted papers, the program committee, and the reviewers.

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