

Parameterized Verification: Proving it for any Number of Processes

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Systems composed of a finite but possibly arbitrary number of identical components occur everywhere, from hardware design (e.g. cache coherence protocols) to distributed applications (e.g. distributed algorithms for mutual exclusion, byzantine agreement, or distributed termination, or client-server applications). Parameterized verification is the task of verifying the correctness of this kind of systems regardless the number of their components.

In this course we analyze the decidability and complexity of parametrized verification in the case in which all processes execute the same code, and have no identities. The course is based on a recent survey paper [4]. It is a mixture of older results [2, 5], and recent developments [1, 3, 5, 6].

References

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