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Model Based Safety Analysis

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ABSTRACT

In safety critical applications, the growing complexity and risk associated with embedded software intensive systems demands for reliable safety assessments. Additionally, in many application areas standards and norms require the usage of model based techniques to guarantee the quality of safety critical systems. Model based safety analysis is a formally grounded approach to compute reliable safety properties from system models. In this context the term safety covers functional correctness, failure tolerance, safety optimisation as well as balancing antagonistic safety concerns. The analysis has both qualitative and quantitative aspects. Systems under consideration are discrete reactive systems. An extension also applies to self-organising systems. The talk presents the approach as well as some interesting applications.

Wolfgang Reif is a full professor of Computer Science at the University of Augsburg, Germany. He is Dean of the Faculty of Applied Computer Science, Director of the Institute for Software & Systems Engineering, and Director of the elite graduate program Software Engineering wihtin the Bavarian Elite Network (joint program with TU Muenchen and LMU Muenchen).

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