

Formal methods: the foundation for critical IT applications

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Digitization serves as the foundation for incorporating intelligence and optimization into production, economic, and societal processes. This leads to an increasing number of critical applications that are becoming more complex and varied. Simultaneously, the potential losses resulting from these applications' malfunctioning can be significant. To manage this complexity and reduce the risk of failures, model-based techniques are essential. The primary focus of this discussion is on how to combine engineering modeling with mathematical analysis to ensure the correctness of IT applications.