

Modelling and Analysis of Software Reliability

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Software systems are now integral part in our society and they are essential in safety-critical systems. Both producer and customer face the difficulties in estimating software reliability, especially in field applications. In this talk, we will review some traditional models that have been proposed and studied for this purpose. These models include the commonly used nonhomogeneous Poisson process models and the well-known Markov models. In addition, some recent research will also be discussed to address some of the issues related to the application of these models in a practical context. This includes the modeling of fault-detection and fault-removal process, and analysis of dependant failures. Issues of using software reliability models in system reliability analysis will also be discussed.