INVESTIGATION ON LOGISTIC GROWTH MODELS IN SOFTWARE RELIABILITY

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Abstract. *The talk is devoted to Software Reliability Growth Models based on the Verhulst model also known as the logistic growth model. It is well known that it is a mathematical model that describes population growth, where growth is limited by resources or carrying capacity. This provides a natural way for modeling the fault detection and removal process during software testing. We examine the applicability of logistic-type SRGMs using empirical data from real open-source software projects. The analysis focuses on the models' ability to capture the nonlinear dynamics of software reliability growth and to provide accurate approximations of the fault discovery process. The results demonstrate the potential of logistic SRGMs as an effective quantitative tool for assessing the reliability of open-source software systems.*

Key words: Software Reliability Growth Model, Logistic Growth Model, Software Reliability Engineering, Open-Source Projects

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