Name of the Scholar: Swati Singh

Name of the Supervisor: Dr. Taran Singh Bharti (Sup) and Prof. Monica Mehrotra (Co-Sup)

Name of the Department/Centre: Computer Science

Topic of Research: Assessment and Development of Software Prediction Models

Findings

The culmination of my Ph.D. research, spanning 7 chapters have yielded significant insights into the field of software reliability and modelling. Chapter 1 is an introduction to various terms, metrics and oraganisation of thesis. Chapter 2 presents an insight into the existing literature. Chapter 3 elaborates various implementation tools and techniques, language and methodologies used for implementation of various objectives in the thesis. Chapter 4 presents the comparative analysis of various models with different parameter constraints using regression analysis in SPSS. Chapter 5 presents an approach to quantify reliability of multi-release software product based on the implementation of three different kinds of issues by comparing the results in SPSS. Chapter 6 presents a new software prediction model proposed to examine the number of bugs using machine learning. The proposed model is experimentally evaluated. Chapter 7 summarizes the work and concludes the thesis. It deliberates the finding and discusses the results. Besides that, it presents the limitation of the research work with future direction for further research in this domain. Overall may prove to be highly beneficial for planning software releases to foresee an ideal and effective time to introduce software in the market based on different parameters and conditions to produce a highly reliable software.