##### A PROJECT REPORT ON

**SOFTWARE DEFECT ESTIMATION USING MACHINE LEARNING ALIGORITHMS**

Submitted in partial fulfillment of the requirements for the award of degree in

##### MASTER OF COMPUTER APPLICATIONS

SUBMITTED BY

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UNDER THE GUIDANCE OF

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LECTURER IN COMPUTER SCIENCE



##### DEPARTMENT OF MCA

ISO9001-2015 Certified Re-accredited at ‘A’ by NAAC

**KAKARAPARTI BHAVANARAYANACOLLEGE(AUTONOMOUS)**

(Approved by AICTE, Affiliated to KRISHNA UNIVERSITY, MACHILIPATNAM) Kothapet, Vijayawada, Krishna (Dst), pincode-520001

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**CERTIFICATE**

This is to certify that this work entitled “**SOFTWARE DEFECT ESTIMATION USING MACHINE LEARNING ALIGORITHMS**”is bonafide work carried out by **NAREDLA NAGA SAI(21MCA087)** in the partial fulfillment for the award of the degree in **MASTER OF COMPUTER APPLICATIONS of KRISHNA UNIVERSITY, MACHILIPATNAM** during the Academicyear**2021-2023**. It is certify that the corrections / suggestions indicated for internal assessment have been incorporated in the report. The project work has been approved satisfies the academic requirements in respect of project work prescribed for the above degree.

Project Guide Head of the Department

External Examiner

##### ACKNOWLEDGMENT

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##### DECLARATION

I hereby declare the project work entitled “**SOFTWARE DEFECT ESTIMATION USING MACHINE LEARNING ALIGORITHMS”** submitted to K.B.N P.G COLLEGE affiliated to KRISHNA UNIVERSITY, has been done under the guidance of **Smt. M.KALADEVI M.C.A,MTech(CSE) Department of MCA** during the period of study in that it has found formed the basis for the award of the degree/diploma or other similar title to any candidate of University.

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**SOFTWARE DEFECT ESTIMATION USING MACHINE LEARNING ALIGORITHMS**

##### ABSTRACT

Software Engineering is a comprehensive domain since it requires a tight communication between system stakeholders and delivering the system to be developed within a determinate time and a limited budget. Delivering the customer requirements include procuring high performance by minimizing the system. Thanks to effective prediction of system defects on the front line of the project life cycle, the project’s resources and the effort or the software developers can be allocated more efficiently for system development and quality assurance activities. The main aim of this paper is to evaluate the capability of machine learning algorithms in software defect prediction and find the best category while comparing seven machine learning algorithms within the context of four NASA datasets obtained from public PROMISE repository [12]. All in all, the results of ensemble learners category consisting of Random Forests (RF) and Bagging in defect prediction is pretty much its counterparts. Keywords—Software quality metrics, Software defect predic-tion, Software fault prediction, Machine learning algorithms

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