



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL
(An Institute of National Importance)

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M Tech Dissertation- Monthly Progress Report

Student Details

Roll Number	24CSMIR23
Name of the Student	Udit Jain
Program & Specialization	M.Tech. (CSE)
Academic Year	2025-26
Semester	Odd Sem
Supervisor	Prof. Mangubala Bisi
Month	October

Monthly Progress details:

Title	Reliability of Explainable AI (xAI) on Software Defect Detection.												
Problem statement/Objectives	The challenge is to design a new parameter to check the reliability of Explainable AI (xAI) results on Software Defect Detection where unstable explainability can be risky.												
Progress Summary	Implemented both the current and proposed reliability approaches on 8 datasets across 8 models (64 combinations), achieved reliability score - 0.87 (current) and 0.83 (proposed). Models are both Machine learning (Ensemble learning) and Deep learning (Neural Networks) are used. And Datasets are NASA promise ones are utilized.												
Planned work for next month	To perform Wilcoxon-Signed Rank (WSR) testing to statistically evaluate how similar or different the current and proposed reliability approaches are across all datasets and models.												
Any Publication (Conference paper/ Journal paper/ Book Chapter etc.)	—												
TA duties attended (weekly basis)	—												
Supervisor remarks (please Tick one of the options) about the student's project progress.	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Excellent</td> <td>Satisfactory</td> <td></td> </tr> <tr> <td>Very Good</td> <td>Marginal</td> <td></td> </tr> <tr> <td>Good</td> <td>Poor</td> <td></td> </tr> </table> <p><u>Comments (if any):</u> Satisfactory</p>				Excellent	Satisfactory		Very Good	Marginal		Good	Poor	
Excellent	Satisfactory												
Very Good	Marginal												
Good	Poor												


Signature of the Student


Signature of the Supervisor/Guide