Department of Computer Science and Engineering (CSE-2)

A.Y:2025-26   **IV B.Tech Odd Semester**   **Y22 Batch**

Capstone Project – I Abstract Proforma

Date: 19-7-2025

Batch Number: 379 Project Usecase no:10	Project Title: Smart Financial Risk Management System	Guide Name: Mr. Rajesh Bingu Guide emp. Id: 7822

Project Abstract:

This capstone project aims to develop a Smart Financial Risk Management System by leveraging Machine Learning (ML) algorithms and Big Data analytics to enhance the accuracy, efficiency, and adaptability of risk assessment in financial institutions. The proposed system will integrate advanced predictive models such as LSTM, Random Forest, and CNN with real-time big data frameworks like Apache Flink or Spark, allowing continuous monitoring of market, credit, and operational risks. Additionally, the system will utilize cloud computing infrastructure for scalable deployment and incorporate Generative AI technologies (e.g., GPT-based models) for intelligent automation, synthetic data generation, and improved model explainability.

 The project is inspired by recent research findings that demonstrate the superiority of ML-based frameworks over traditional statistical models in identifying high-risk behavior, predicting financial anomalies, and issuing early risk alerts. It aims to provide financial institutions with a robust decision-support tool that operates in real-time and adapts to dynamic market conditions.

 Key challenges to be addressed include data quality issues, regulatory constraints, integration complexities between AI models and big data platforms, and the interpretability of deep learning systems. Moreover, ethical concerns such as algorithmic bias and compliance with financial regulations will be critically evaluated.

This project sets the foundation for building a secure, scalable, and intelligent financial risk management platform, contributing to the digital transformation of the financial sector and enabling institutions to respond proactively to emerging risks in today's volatile economic landscape

To be filled by the Guide:

Student IDs:	Attendance	Student's Understanding Level on Project (V. Good: 10-8M Good: 7-6M Average: 5-4M Poor: 3-0M)
2200031436		
2200030893		
2200031227		
2200030534		

Guide Remarks:

Guide Signature: