

## Risk Assessment and Management Using Machine Learning Models

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**Abstract :** In the era of global interconnectedness, effective risk assessment and management are critical for organizational resilience. This review explores the integration of machine learning (ML) into risk processes, examining its transformative potential and the challenges it presents. The literature reveals ML's success in sectors like consumer credit, demonstrating enhanced predictive accuracy, adaptability, and potential cost savings. However, ethical considerations, interpretability issues, and the demand for skilled practitioners pose limitations. Looking forward, the study identifies future research scopes, including refining ethical frameworks, advancing interpretability techniques, and fostering interdisciplinary collaborations. The synthesis of limitations and future directions highlights the dynamic landscape of ML in risk management, urging stakeholders to navigate challenges innovatively. This abstract encapsulates the evolving discourse on ML's role in shaping proactive and effective risk management strategies in our interconnected and unpredictable global landscape.

**Keywords :** machine learning, risk assessment, ethical considerations, financial inclusion

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