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Revolutionizing Housing Finance with AI-Driven Data Science and Cloud Computing: Optimizing Mortgage Servicing, Underwriting, and Risk Assessment Using Agentic AI and Predictive Analytics

Someshwar Mashetty

Lead Business Intelligence, AIMIC Inc, Chantilly, Virginia, USA

The convergence of AI-driven data science and cloud computing is revolutionizing housing finance by enhancing mortgage servicing, underwriting, and risk assessment. Traditional mortgage processes often rely on rigid models and historical data, limiting their ability to adapt to dynamic market conditions. This study explores how agentic AI and predictive analytics optimize these functions by enabling real-time data processing, automated decision-making, and advanced risk modelling. AI-driven underwriting improves loan approval accuracy by assessing borrower risk through machine learning algorithms, while predictive analytics enhances mortgage servicing by identifying potential delinquencies and optimizing loss mitigation strategies. Additionally, cloud computing facilitates seamless data integration, scalability, and security in financial operations. The study highlights key benefits, including increased efficiency, reduced costs, and improved risk management, while also addressing challenges such as regulatory compliance and ethical AI deployment. By leveraging AI and predictive analytics, financial institutions can create a more responsive, data-driven approach to housing finance, ultimately fostering a more resilient mortgage ecosystem.