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Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System

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Source International Journal of Innovative Research in Engineering & Management

Volume: 11 Issue: 6 Page: 175-179

DOI: 10.55524/ijirem.2024.11.6.19

Published Dec 01 2024

Early Access Dec 2024

Indexed 2025-07-11

Document Type Article

Abstract

With Gen AI models becoming more evolved, their application in enhancing the robustness of the US Financial System is more viable. Financial risk modeling can take advantage of these development and aid regulatory framework by integrating these novel technologies to make their models more robust. In this work, we have used the latest Gen AI model by Open AI also known as Chat-GPT 4o and 40 mini and Google Gemini Version 2.0 and 1.5 to generate relevant questions from govt websites and measure the accuracy and relevance in checking the the pre trained logistic regression models. We have rated the accuracy of the questions by taking a survey of three Risk Analysts (volunteers) and found that Gen AI is 70-80% accurate in terms of the question for the models it generated. The new and the old model for open ai vs Gemini were compared. We have also documented how different models are sensitive to different prompts as they want to save computational cost and keep the output relevant. These questions generated can be used and integrated in the backend and auto curate the models under analyst supervision. We proposed a full stack framework as an end to end solution to address issues related to privacy and ethical considerations limiting exposure of property data and models. We have used all-MiniLM-L6-v2 as the bridging APIs for creating variants of the queries.

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