## BANKING FINANCIAL SERVICES

A PERIODIC REVIEW OF SPECIAL LEGAL DEVELOPMENTS AFFECTING LENDING AND OTHER FINANCIAL INSTITUTIONS

Vol. 41 No. 9 September 2025

## ARTIFICIAL INTELLIGENCE MODELS IN FINANCIAL SERVICES: EMERGING ISSUES AND AREAS OF RISK

This article explores the rapidly evolving landscape of artificial intelligence in the financial services industry, and discusses emerging risks and regulatory challenges. It examines how financial institutions are leveraging predictive and generative AI to enhance operations, and highlights the tension between innovation and compliance, particularly with the patchwork of emerging state laws and guidance that seek to address algorithmic bias and data governance. Practical considerations for data management, model risk, and explainability are discussed to help institutions consider how to responsibly implement AI solutions. As the regulatory environment continues to shift, this article offers timely insights for industry participants seeking to balance innovation with regulatory compliance.

By Sherry-Maria Safchuk, Sasha Leonhardt, Caroline Stapleton, and Samantha Goldberg-Seder \*

Artificial Intelligence ("AI") is changing the way we view and analyze data. With predictive AI, financial institutions increasingly began to implement models that analyzed prior consumer information to predict outcomes — an improvement over previous formulas. However, in the past three years, the advent of generative AI¹ has taken human capabilities to an

entirely new level of efficiency — AI can draft essays, analyze thousands of rows of data, and summarize multivolume treatises instantaneously. Furthermore, in the years since, reliance on agentic AI has increased, and AI agents and interactive chatbots that can communicate with consumers without human intervention have

footnote continued from previous column...

Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile 1, 3–4, July 2024, NCSL Artificial Intelligence 2025 Legislation, https://nvlpubs.nist.gov/nistpubs/ai/NIST.AI.600-1.pdf.

\* SHERRY-MARIA SAFCHUK is a partner at Orrick, Herrington & Sutcliffe LLP's Santa Monica, CA office. SASHA LEONHARDT and CAROLINE STAPLETON are partners at the same firm's Washington, DC office, and SAMANTHA GOLDBERG-SEDER is a senior associate at Orrick's Silicon Valley office. Their e-mail addresses are ssafchuk@orrick.com, sleonhardt@orrick.com, cstapleton@orrick.com, and sgoldbergseder@orrick.com. Special thanks go to SHEILA ZERANG, an associate at the firm's Santa Monica office. The views and opinions expressed in this article are solely those of the authors and do not necessarily reflect the policy or position of Orrick or any of its clients.

September 2025 Page 119

<sup>&</sup>lt;sup>1</sup> Large language models ("LLMs") are a subset of generative AI systems trained on extensive datasets to generate human-like language and responses. They utilize deep learning techniques, particularly transformer architectures, to perform a range of language-related tasks. Nat'l Inst. of Standards & Tech.,