AI discrimination and bias in financial services

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Financial institutions are increasingly facing scrutiny from regulators to demonstrate accountability for protecting consumers from the adverse impacts of artificial intelligence (AI) strategies that may become embedded in financial products and services. Institutions can mitigate potential harm to consumers by identifying and removing forms of bias and discrimination that may be introduced through the adoption of AI and machine learning in data modeling and advanced decision-making practices.

Regulatory background

The Consumer Financial Protection Bureau (CFPB) announced that it will expand the definition of "unfair" within the Unfair, Deceptive or Abusive Acts or Practices (UDAAP) regulatory framework by applying the Consumer Financial Protection Act's standard of unfairness to include conduct that it asserts is discriminatory. The CFPB also plans to review "models, algorithms and decision-making processes used in connection with consumer financial products and services."[1]

Further, the CFPB outlined that federal anti-discrimination laws require that adverse notice be provided to applicants with an explanation of the rationale applied for rejections, irrespective of any reliance on data models using complex algorithms.[2] In addition, the Bureau issued an interpretative rule stating that digital marketers can be held liable for committing unfair, deceptive or abusive acts or practices, as well as other consumer financial protection violations.[3]

> "The messaging from the CFPB, federal regulators and state lawmakers is increasingly clear that financial institutions are expected to hold themselves accountable for protecting consumers against forms of algorithmic bias and discrimination. It is the intent of regulators to scrutinize the decision-making roles that these technologies play in the marketing, underwriting, and support of financial products and services, and to hold firms liable when these practices fail to protect consumers from undue harm.

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Evolving legal landscapes

Legislators and regulators are working to establish boundaries that govern the use of AI and protect the public. Responsibly implementing AI requires monitoring of these trends. According to "The State of State AI Policy (2021-2022 Legislative Session)," an annual list published by The Electronic Privacy Information Center, there were seven state and local AI-related bills that were signed into law or took effect, eight AI-related bills that were passed and another 14 AI-related bills that were introduced between 2021-2022, respectively.[4]

Solutions to move toward responsible AI

1. **Know the data: from source to table**
The first line of defense against algorithmic bias is to have a clear understanding of the reasons and ways in which data is being collected, organized, processed and prepared for model consumption. AI-induced bias can be a difficult target to identify, as it can result from unseen factors embedded within the data that renders the modeling process to be unreliable or potentially harmful.

2. **Test data labeling and proxies**
Apply testing rigor to measure pretraining bias and optimize features and labels in the training data. For example, equality of opportunity measurements can observe whether the consumers who should qualify for an opportunity are equally likely to do so regardless of their group membership. Disparate impact measurements can gauge whether algorithmic decision-making processes impact population subgroups disproportionately and thereby disadvantage some subgroups relative to others.[5]

3. **Analyze results and identify key risk areas**
Systematically investigate and study results from testing to identify key risk areas for bias in the modeling process. Tag material data points for human reviewers who can assess machine-based outputs and help to reclassify results for greater effectiveness. Train machine learning models based on qualitative evaluations and then apply them to the entire population to assist in bias detection, along with documenting historical incidents of bias and monitoring against unfair practices.

4. **Independently verify and validate fairness in modeling**
Engage an outside third-party organization that is not involved in the development of data modeling frameworks. Assess whether each product has been designed to meet requirements and specifications (e.g., technical, compliance, regulatory, legal), and that any unintended algorithmic bias and discrimination has been identified and eliminated.

5. **Harness the power of synthetic data**
Safeguard sensitive information in accordance with data privacy laws. Help to improve modeling strength and solve for data bias through meticulous manufacturing of synthetic (artificial) data that is a replication of events or objects in the real world and removes risky variables that can induce forms of digital discrimination against protected classes.

Responsible business conduct

The CFPB dictates that responsible business conduct includes the self-examination and self-reporting of algorithmic modeling processes and their impacts to consumers. A proactive approach to such practices can allow financial institutions to increase trust with their consumers while also controlling the narrative with regulators and could possibly lead to favorable outcomes, such as fewer or no CFPB enforcement fines or penalties or remediation endorsements, limiting the number of violations with the ability for negotiation and extraordinary cooperation credits.

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[1] *Consumer Financial Protection Bureau, CFPB Targets Unfair Discrimination in Consumer Finance (Mar 2022).*

[2] *Consumer Financial Protection Bureau, CFPB Acts to Protect the Public from Black-Box Credit Models Using Complex Algorithms (May 2022).*

[3] *Consumer Financial Protection Bureau, CFPB Warns that Digital Marketing Providers Must Comply with Federal Consumer Finance Protections (Aug 2022).*

[4] *Electronic Privacy Information Center, The State of State AI Policy: 2021-2022 Legislative Session (Aug 2022).*

[5] *Google Developers — Machine Learning Education, Machine Learning Glossary: Fairness.*

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