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Research Article

Artificial Intelligence in Credit Risk: Identifying and Preventing Credit Washing

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Abstract: Credit repair is the process of fixing a credit history that has one or more problems, such as errors, identity theft, or actual delinquencies and similar issues. Credit report inaccuracies can be disputed easily with the credit bureaus and at the same time whenever a consumer is affected by identity theft would require an extensive amount of investigation and steps to fix the same. As per Federal Trade Commission (FTC) guidelines, consumers are protected and have rules in place to dispute any fraudulent activity in their credit report. This loophole is being exploited by bad actors and credit repair companies to falsely raise a dispute on the recent activities of new tradlines, new mortgage, or fraudulent activities with the only aim to remove such activities from their credit file and boost their credit score which in turn they will use it to get more loans or open new tradelines. This process of intentionally raising false disputes to mislead the lenders and financial institutions is called Credit Washing.In other words, Credit Washing is the act of working with the credit bureaus to dispute legitimates charges with the intention of improving a previously reported low credit score, either by falsely disputing incorrect items (yourself or with the help of a company) or by falsely correcting certain financial behaviors. This journal discusses the basic understanding of Credit washing,its impacts on financial markets,risks associated,current measures to monitor and control credit washing, proposed enhanced methods of advanced predictive machine learning and AI capabilities to improve detection of credit washing in order to protect the financial interests of millions of people who are genuinely impacted by false reporting and also to safeguard consumer rights.

Keywords: Credit Washing, Machine Learning, AI, Automated Fraud Detection, Identify Theft, Predictive Modelling, Credit Score Manipulation, Behavioral Analytics

1. Introduction

Credit scores play a crucial role in the financial industry, influencing loan approvals, interest rates, and consumer access to financial services. Correcting erroneous information on credit reports takes some time and effort [1]. In general, accurate information can't be removed from credit reports, although there are some exceptions to this (via goodwill letters and pay-for-delete) However, credit report information and accounts can be disputed if they are misrepresented or inaccurate. The credit repair process requires reviewing your credit reports for details that are bringing your score down, and addressing each of those issues—whether that means sending in disputes or reducing your credit utilization [2]. Consumers have been provided free credit reports from the credit reporting agencies (from AnnualCreditReport.com) and when a lender or financial institutions decided to take a negative action against consumers based on the credit report information provided by the credit bureaus agency. .In our current system, Credit Score plays a critical role for the banker,lenders and financial institutions to evaluate the

financial repaying capacity of a consumer. His score can be good which eventually helps him to secure more credit or loans, or if his score is poor then it leads to denials of required loan application. Credit Repair companies have been working to help consumers fix their poor credits,but over a period of time this activity has led to fraudulent activities of fixing the credit history by dubois method of disputing the tradelines and claiming identity theft is called Credit Washing. In this article, we are trying to identify the impacts credit washing has on the current lending markets and the holistic credit bureau reporting and monitoring.

2. Understanding Credit Washing

Credit washing activities have been on the rise lately due to the rise of synthetic identities on financial institutions,lenders and banks in the United States.A newly released report from Transuinon(one of the major credit reporting bureaus in United States), highlights the sudden increase of synthetic identify fraud and credit washing practices. Both these

practices are deemed as fraud and the financial industry is experiencing an unprecedented increase of claims reported due to the rise of credit repairing services[3].

● **Synthetic Identity - The 3.2 Billion Dollar Fake Account Problem**

One of the major revelations of TransUnions's analysis highlights the tremendous all time high reporting of identify fraud cases.The estimated financial impact caused by identify fraud issues reported as of 30-June 2024 is about $3.2 Billion dollars. This loss is realised by the majority of the financial industries like personal loans, credit card consolidation loans, car/auto loans, and mortgage housing loans. From the analysis, it shows that about 0.20% of the brand new banking accounts are opened using fraud identity within the first six months of 2024. This is an increase of 18% Year over Year compared to the same time last year of 2023. It shows that the auto industry has been impacted the most by fraud.

Below shown graph indicates that the banking credit cards industry is impacted the most next to the auto loan industry. The analysis shown below indicates the steady increase of identify fraud problem
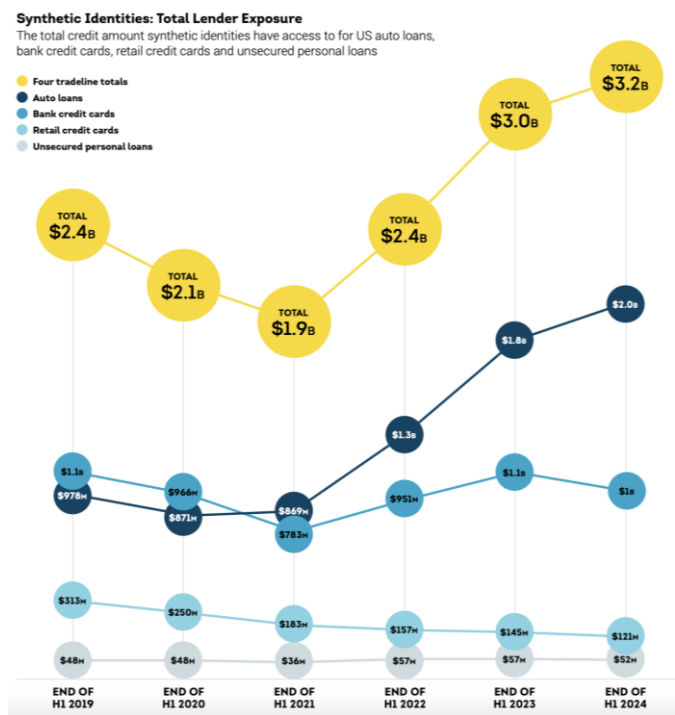

Figure 1 - Impact of Identity Fraud Year over Year

● **Credit Washing - The new Dirty Problem**

The identity fraud problem gets enabled multifold due to the rise in credit washing activities which is being used predominantly by the fraudsters who have mastered the art of manipulating the credit reports by reporting identity theft report (ITR) to federal's fraud identity portal or raising a dispute with the credit reporting agencies on legitimate and valid open tradelines.What we understand from the TransUnion's data is that the number of disputes raised during the first half of 2024 are mainly due to fraud identity related claims which accounts to 13% of all the credit report

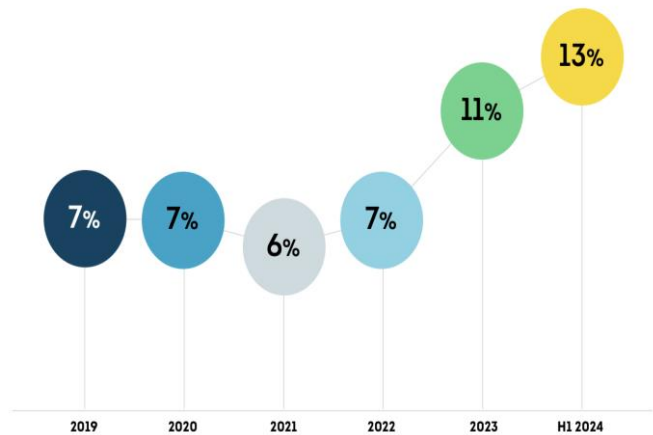disputes raised. This is the highest number of disputes recorded since 2019.

Figure 2 - Impact of Credit Washing Year over Year

● **Dispute Process Manipulation**

How a consumer tricks the existing credit bureau system is a very simple and effective way of using the loophole in the existing FCRA rulebook of consumer privacy. A customer who has a series of open tradelines with a history of either non-payment or late payments which are either related to credit card payments, personal loan payments or auto loan raises repeated disputes with the Credit Bureau companies claiming those charges as unauthorized or unapproved charges or data furnisher's credit reporting errors. These repeated dispute claims add a lot of backlog items to be verified by the lenders or financial institutions. This delay enables the credit bureau companies to temporarily lift the disputed claims from the credit report of the consumers which leads to an artificially boost in the credit score rise of the consumers. If the lenders or financial institutions are not able to resolve the dispute in a timely manner then the credit bureaus will permanently remove the disputed claims from the consumer credit files which results in falsely enhancing the consumer credit score or profile [4].

● **Credit Repair Link between Fraud Identity and Credit Washing**

From the analysis shared so far in this journal, it's very obvious that there exists a close connexus between identity theft and the credit washing process. Credit repair agencies mislead their customers to work with credit bureaus to raise repeated disputes related to valid tradelines charges by claiming their identity got stolen. They also advise their customers to use the Credit Privacy Number (CPN) to exploit the matching logic used by credit bureau companies to remove all the negatively reflected tradelines from their credit report files.These kinds of fraudulent practices will continue to rise as these credit repair companies continue to mint millions of dollars by misleading its customers to hide their real current identity and their real credit situations.

The Real Impact:

According to various financial industry reports, it has been accepted and validated that the surge in credit washing instances have been steadily increasing which in turn leads to increased defaulters,manipulated credit profiles,and mistrust in the credit scoring mechanisms. In other words it affects all major parties involved.To put it in perspective, it impacts all the parties involved:

Financial Lenders/ Banks: In recent times, credit washing has led to increased risk for the lenders by approving loans based on manipulated credit files to make a credit lending decision. This in turn will expose the lenders and banks to encounter increased default rates and increased financial loss.

Credit Bureaus Agencies: Credit bureaus will be hit with a sustainable increase in the repeated dispute process. This in turn affects the bureaus to spend more time and allocate increased resources to further investigate the disputes raised by the consumers, many of which are fraudulent disputes raised due to the credit washing process.

Customers/End Consumers: Credit washing process affects the consumers who are genuinely impacted by the action of identity theft. Increased backlog of identity theft fraudulent claims, leads to delayed or insufficient resolutions. This basically undermines the consumer protection policies which are created to help the same consumers.

3. Life Cycle of Credit Washing

A consumer contacts a credit reporting agency (CRA), disputing a negative tradeline entry or claiming his/her identity got stolen. This is the first step in the life cycle of credit washing. Consumers working with Credit repair companies have used these dubious methods to temporarily remove the negative delinquencies , over the limit credit card tradelines, and late payment details from their credit file. If the CRA respects these claims without knowing thats its a fraud credit washing claim, will result in a credit score bump and have a clean record, as the consumer have disputed the entries in his credit file. The Federal Credit Reporting Act (FCRA 15 U.S.C. §§ 1681-1681x), gives the rights to the consumers to dispute if they are a victim of identity fraud. This ensures Credit Reporting Agencies protect consumers impacted by identity theft fraud activities. Credit Repair Agencies (CRA) use this loophole in the law to claim that its consumers have had their identity stolen and the impacted consumers should be protected by removing these negative delinquencies or negative unpaid balances or a new tradeline entries in the consumers file. The impacted consumer or a credit repair agency (CRA) can place an identity theft report (ITR) with the credit reporting bureaus to falsely claim that their identity got stolen. They abuse the ITR system, by repeatedly filing more and more ITR disputes which are mostly negative in the credit file affecting their credit scores. This act of claiming duplicate disputes over a period will artificially boost their credit score which they will be used to get more loans from the lenders and financial institutions.

Even Though this is being used widely, not all credit reporting agencies follow this fraud and dishonest practices.
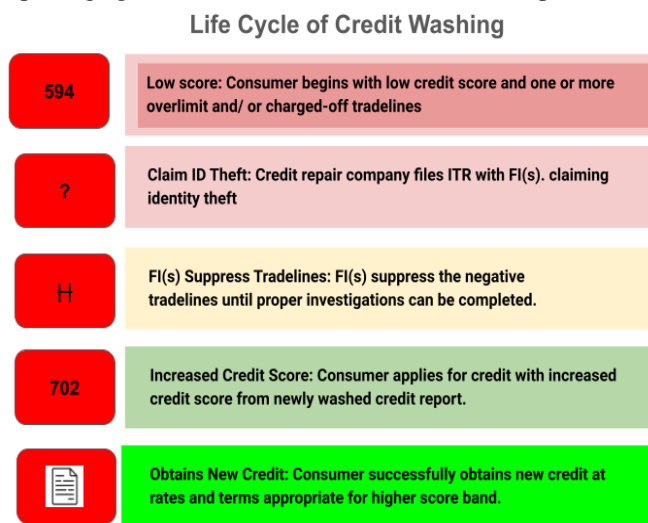

Figure 3 - Life Cycle of Credit Washing

As shown in the figure above, these are the steps involved in a typical Credit Washing lifecycle. Consumers have a low score due to genuine reasons of delinquencies or bad tradelines debt. In the next step, either the consumer or a credit repairing agency claim an ITR with the credit reporting agencies, who in turn will suppress the bad tradelines or delinquencies as protected by FCRA guidelines [4]. As a result of this, there will be a boost to the credit score which in turn the lenders use to approve increased credit to their consumers. These kinds of funds released to these bad actors will be written off as a loss as these consumers don't have the intention to pay the loan off which results in an accumulated loss to the banks and other financial institutions.
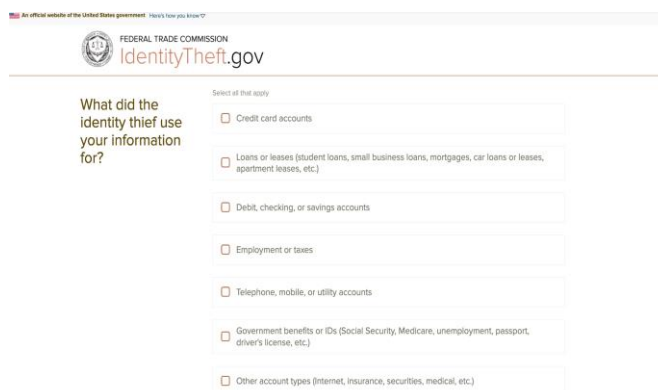

Figure 4 - Raising a ITR report

Prior to 2018, if a consumer or a credit repair agency filing an identity theft report required to have filed a police report as well. This was seen as a hindrance for the credit washing agencies as they dont want to deal with a police report. But post 2018 after this rule was changed, there was a significant rise in the filings of stolen identity with the credit reporting agencies and also through www.identitytheft.gov federal government portal.This significant increase in filing was noticed by the credit reporting agencies and also by the identity theft government agencies. In 2021, the FTC's Office

of Inspector General's report[7] showcased a significant increase in the pattern of identity theft filings through the use of ITR process through its portal as shown in the below figureIn his report, he shared that this practise is used to temporarily boost the consumers scores to mislead lenders and banking institutions.

Figure 5 - Reporting ITR to FTC

4. Understanding Credit Washing Increased Risk and Financial Losses

So far we have understood what credit washing is and how consumers and credit repair agencies use the Identify theft process to scam the system by misleading banks and financial institutions. In this section, we are trying to assess the financial debt or losses credit washing has been causing. We are going to focus on the following two key areas:

i) Total dollar amount being disputed by consumers or credit repair agencies
ii) An average consumer credit score increase due to credit washing

We need to understand these two key areas of analysis to base the total damage it has done to the financial industry and the risks it has created for the banks and lenders in their credit approval and underwriting process.

For this journal, I referred to the analysis done by SentiLink to understand the impact of credit washing in the US financial markets. Sentilink has done this analysis taking into account a random 9,000,000 sample of credit reports from the US population in an anonymized manner to conceal and protect the identities of the consumers. Sample was taken randomly to avoid any bias and avoid targeting a specific demographic. The analysis was done by considering the new tradelines, in this case new credit cards and new charge cards which are actually reported between 1st of April,2020 and 31st of December 2020. (1/4/2020 to 31/12/2020).Analysis done on this randomly picked sample consumer's files will be extrapolated to represent the entire US population. The current US market represents credit active profiles to about 92 million credit tradelines and a total of 60 million consumers. Even Though the US population is about 300 million, the credit active population is only about 20%.From this list of tradelines identified, in the end of January 2021 (31/1/2021), we do notice that there was 248,000 new credit card or new charge card tradelines has a charge write off amounts more than $100. On further analysis, it was identified that 49,000 tradelines related to credit cards were

missing when it was referred to at the end of August 2021 (31/08/2021). What this means is that, out of the 248,000 new tradelines reported at the end of January 2021, 49,000 are not reported or not available at the end of August 2021. This means that 17% of the trade lines either new credit card or charge card went missing in a span of 7 months. Further in-depth analysis identified that out of this 49,000 new credit cards reports, we do notice that consumers have been making regular credit card payments for about 21,000 which is 41% of the 49,000. This proves that these consumers are the ones who have opened new tradelines and have used the credit cards for their expenses and have also made payments over a period of time until they disputed that the card was opened due to Identity Theft. During this process, we identified that the average write off or nullifying credit card balance due to credit washing for every consumer is about $823. Using this as a base for every consumer on an average basis, we can use financial models to extrapolate the impact across the entire consumer base. As per the Consumer Financial Protection Bureau (CFPB),it has identified that at least 175 million US consumers have at least one credit card attached to their credit file. Hence the total loss due to credit washing, according to this analysis is estimated at about $297 million. It's a staggering amount of loss due to credit washing to the financial market.

Table 1 - Distribution of Charge Offs or Write Offs

Percentile	10%	50%	60%	70%	80%	90%
Charge off Amount	$438	$637	$659	$743	$847	$1216

The above table 1 shows the behavior of statistical model trending which describe how the charge off and credit score changes are impacted or improved by credit washing proceeds.

Table 2 - Population Ranking of Vantage Scores (Pre-Credit Washing)

Percentile	10	20	30	40	50	60	70	80	90
Vantage 28-Mar'20	511	536	553	566	581	595	612	628	658
Vantage 31-Jan'21	435	454	471	484	501	516	530	545	564

Table 3 - Population Ranking of Vantage Scores (Post-Credit Washing)

Percentile	10	20	30	40	50	60	70	80	90
Vantage 28-Mar'20	-20	0	17	29	40	53	66	79	99

As shown in the above table 2 and table 3, it's clear that the 80% of the consumers has a write off amount below $847 and at the sametime its shows that 80% of the consumers have had a Vantage scores which is below 628 on March 28,2020 and 545 on Jan 30,2021. It also shows that 80% of the consumers have reported a vantage change in score of below 79 points.Interestingly, another 20% of each segment had either a change in Vantage score or write-offs more than the mentioned values.In the above tables, 50% represents the median of the consumer segmentation considered in this analysis.Its clear that half of the segment of consumers considered have a higher write off or charge off value , and a vantage score change while the other half of the segment are lesser than the median value. If you notice the change which is noteworthy shows that between 30 Jan, 2021 and 28 August 2021, the credit repair company successfully credit washed one or more than credit tradelines which the consumer was paying in the past.

5. Current Detection Mechanisms

Manual Review Processes: Lenders and credit bureaus often employ manual reviews of disputed items. While necessary, this approach is time-consuming, inconsistent, and prone to errors.

Fraud Detection Algorithms: Automated fraud detection algorithms rely on historical patterns and scoring models to flag potentially fraudulent activities. However, these models may struggle with sophisticated, novel cases of credit washing.

6. Proposed AI Enhanced Detection Framework

AI-Driven Solutions: Design and build predictive machine learning models using artificial intelligence, a proactive fraud detection system which can be trained from the evolving trends in the credit washing industry. Build, train and deploy machine learning algorithms which can detect anomalies and correspond suggestively of fraudulent disputes[6].

Behavioral Anomaly Detection: Do an extensive study of the actual fraud that happened over a period of time related to credit washing. Based upon that we need to identify the patterns of consumer behavior as highlighted below:
- Credit Washers need to wash their PIIs along with the new or existing tradelines opened by them
- Auto Industry is the one of the main sectors being targeted by Credit Washing companies
- Credit washers always use 'Shady' credit repair agencies
- Consumers who have used specific credit cards for a while, then dispute tradelines for fraud reasons should be flagged as 'suspicious'
- Inconsistent Dispute reasons being reported to Credit Bureaus
- Based upon these behavioral anomalies, build a mathematical model to represent each pattern

Collaboration Across Institutions: Sharing information and patterns between credit bureaus, lenders, and regulatory

agencies can definitely help to identify the gaps being exploited by the fraudsters. With advanced data sharing policies with regulatory privacy measures, enables credit agencies to assess real time credit risk assessments.

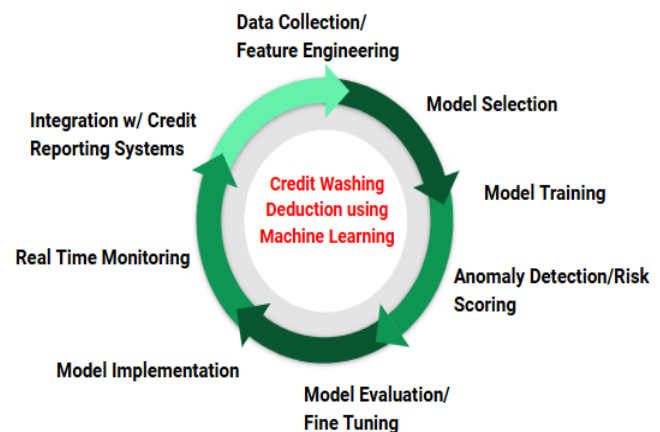## 7. Proposed AI Driven Advanced Machine Learning Concept

Figure 6 - Credit Washing Deduction Workflow

8. Supervised Learning - AI Rules Training

AI rules is a supervised classification aimed at interpretability constraints. Explicit logical rules have to be used for classifying data:
- Bagging estimator > Performance Filtering > Semantic Deduplication
- Suitable for supervised anomaly detection, e.g. fraud detection, churn detection

A component of a rule is a logical expression based on an attribute, whereas a rule is a combination of components which holds true simultaneously

9. Unsupervised Learning - AI Rules Training

Unlike Isolation forest, Kernel Density Estimation (KDE), and K-means, other algorithms all have various levels of complexity (Run-time) challenge [7]. To address this we can go with the following 2- step process:

i) Clustering individual dispute activities into groups (KDE) - By doing this, we will be very effective in 1-dimensional data. It also helps to track events namely, any disputes, any fraud dispute, fraud tradeline or inquiry disputes

ii) Generate cluster level attributes like following
- # Clusters
- Time between clusters
- Variation on time between clusters
- Repeated disputes on same trades

10. Data Privacy and Compliance Concerns - Limitations of Credit Washing Detections

The expeditious advancement of artificial intelligence in recent years has brought about transformation changes across various industries and sectors which in turn affects the way we live and deal with technologies. Credit Washing has always been a bigger concern from the lenders and financial institutions. Particularly, the financial world has changed since Covid(2019) due to a sharp rise in Credit Washing both from personnel and business loan perspective. Even Though the main goal of lenders is to detect Credit Washing dispute applications and bring it under further control to maintain the financial health of the business sector, it definitely comes with challenges and compliance oversight from the federal government. This leads us to understand the limitations and challenges lenders and financial institutions face today.

a) Data Privacy and Compliance oversight

Lenders and Financial institutions have to adhere to the legal obligation of storing, processing and using the consumer data for profiling. It not only helps us to store the information of consumers in a secure way, but also intended to protect the consumer data from data breaches due to bad actors in the market. Data privacy compliance refers to the institutions practices, policies,and technical procedures being implemented to ensure it adheres to all legal regulations and standards set by CFPB.The **Consumer Financial Protection Bureau** (**CFPB**) is an independent agency of the United States government responsible for consumer protection in the financial sector.Since its founding, CFPB has implemented advanced technology tools to monitor how financial institutions used used social media and advanced algorithms to target consumers [8].

b) Bias in Algorithm

With the evolution of Machine learning and AI, the concern of algorithmic bias in determining the financial health of a consumer or a business have been on the rise. The basic concept of an algorithm is nothing but a set of instructions defined to identify how programs read, collect, process, and analyze data to generate output[9]. As this depends upon the data being fed to the machine learning and AI algorithms, it's the responsibility of the financial institutions to train the model using a diversified data set which covers all the demographics, culture, financial, scientific, statistical, and meteorological information. This will help to prevent the model skewing the results towards one set of demographics and start rejecting genuine loan applications because of their affiliation to a specific race or place of dwelling. If this algorithmic bias is not addressed by the financial institutions then they are vulnerable to lawsuits and class action by the consumers.

c) Transparency of AI Models

Since the rise of OpenAI, financial institutions have started leveraging the features of AI to effectively identify fraud activities and prevent provisioning large sums of loans being sanctioned. This comes with an increased threat to data privacy and protecting consumer personal information being stored or manipulated in the OpenAI world. Most of the AI models are blackbox to institutions, which does not give us any transparency of how much of consumer information is anonymised and stored within the institutions data network and how much is being transferred back to AI companies. Institutions need to understand how the code is being built and how their consumer information is being processed during decision making processes.

d) AI Data Governance

With increased use of AI in the decision making process by banks and financial institutions, it shows the potential of constructing a robust AI Data governance to help scale data security, data integrity, data privacy and data compliance. This will help build and define guard rails for the implementation of AI and machine learning to be in compliance with regulatory and privacy rules.

e) Monitoring Oversight and Controls

In order to ensure usage of AI and machine learning are working within the guard rails set by the AI governance rules, well defined KPI (Key Performance Index) have to monitored over a period of time to ensure there are no bias, ethically accepted and more importantly protecting the consumers and business interest by helping the genuine businesses in need [9].These KPIs needs to be revised and updated according to the new rules and regulations being defined by CFPB and also due to evolution of AI.

9. Conclusion and Future Directions

In this journal, we have discussed what is credit washing, how it's being executed by consumers and credit repairing companies using the FCRA identity theft reporting portals and creating disputes with credit reporting bureaus.The financial loss and lack of trust ,created by credit washing practise is impacting the economic growth of the country, increased write-offs at the banks and increased risks in under-wrtiing process. Using Advanced AI technology, proposed risk identifying and pattern recognition models can be created and implemented which can help downstream lenders and financial institutions better control of the situation by protecting its financial interests and also helping the consumers in need. Credit Washing is an emerging fraudulent practice spreading to all types of industries like finance, auto,mortgage and credit card tradelines. Financial institutions should leverage these proposed advanced AI practices to identify patterns and risk signals to help lenders to reduce approval risks.

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Vijay Arpudaraj Antonyraj is a a seasoned technology executive with over 20 years of experience, Vijay brings a wealth of expertise in Data and analytics, Data Architecture, Data Engineering, Data Modelling, Business Intelligence and AI/ML (Artificial Intelligence and Machine Learning) coupled with a proven track record of leadership across the USA, Canada, and the UK. Currently serving as Vice President of Data and Analytics,he is recognized as a visionary leader, mentor, and strategic innovator, driving multi-million-dollar business outcomes through data-driven decision-making. Throughout his career he successfully led multiple teams across international markets, generating significant business value and aligning cross-functional initiatives. Spearheaded large-scale data transformation projects, enabling organizations to leverage analytics for competitive advantage and established a culture of innovation, mentoring upcoming leaders and fostering continuous learning within teams.He has consistently demonstrated ability to lead and inspire high-performing teams across diverse geographies, fostering collaboration and delivering exceptional results. Vijay possesses a strong aptitude for anticipating industry trends and leveraging emerging technologies to transform businesses.He has been a dedicated mentor committed to developing talent and empowering individuals to achieve their full potential. Vijay has proven success in driving business growth through the strategic implementation of data and analytics solutions.