

# National Bank Bias Detector Challenge



NATIONAL  
BANK

CAPITAL MARKETS



sesa/aégl



# Why Behavioral Biases Matter

Many traders lose money due to **behavioral biases** rather than a lack of knowledge.

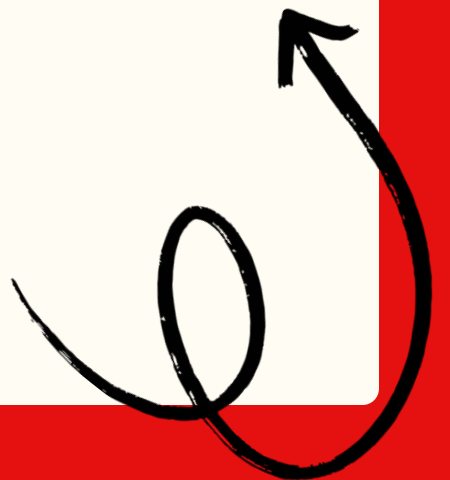
Understanding these biases is crucial for improving trading decisions and enhancing profitability in the financial markets.



# Mission Statement

## Create a powerful Bias Detector

The goal is to **build a prototype** that accurately analyzes trading history, identifies harmful behavioral patterns, and provides personalized, actionable feedback to enhance trading performance.



# What you Will Build: Trading History Input

Teams must support one or more of the following:

## File Upload

Users can upload CSV or Excel files containing trading data for analysis and insights.

## Simple UI

A streamlined user interface allows for easy input of sample trades directly by users.

## Required Fields

Essential fields for your project include timestamp, buy/sell indicators, asset details, quantity, entry & exit price, P/L, and account balance.

# Bias Detection Components

Your tool should automatically analyze the data  
and identify at least the following three  
behavioral biases

# 1. Overtrading Bias

## Understanding Excessive Trading Behaviors

### Definition

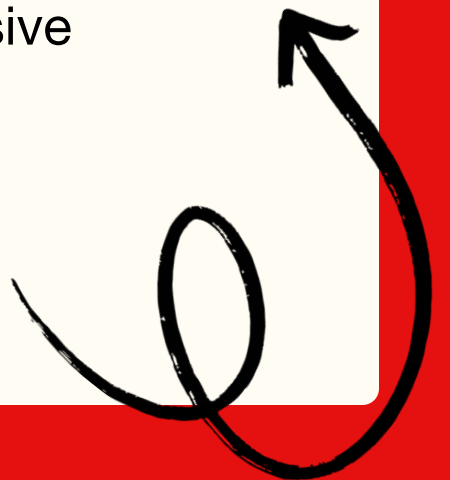
Overtrading occurs when traders execute an excessive number of trades relative to their account balance, often leading to increased transaction costs and diminished overall profitability.

### Frequent Position Changes

Traders may frequently switch positions, often influenced by emotional reactions rather than strategic planning, which can disrupt their trading strategy and lead to financial losses.

### Impact on Strategy

Overtrading undermines a trader's strategy by prioritizing activity over analysis, making it challenging to stick with well-researched plans and potentially leading to impulsive decision-making.





# 2. Loss Aversion

## Understanding trader decision-making flaws

### Definition

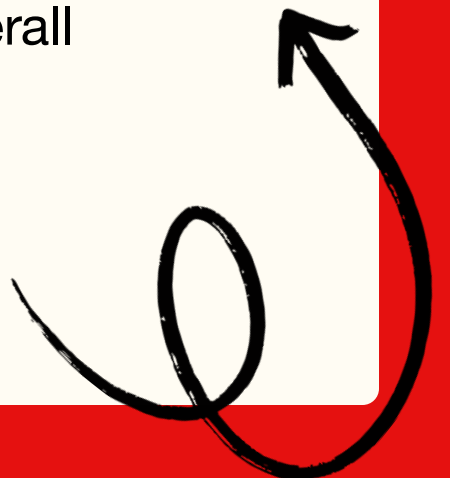
Loss aversion refers to the tendency of traders to prioritize avoiding losses over acquiring gains, leading to poor decision-making and irrational trading behaviors.

### Holding Losses

Many traders allow losing positions to linger too long, hoping for a turnaround, which often results in greater financial loss rather than accepting smaller, more manageable losses.

### Closing Winners

Conversely, traders frequently close winning trades prematurely, fearing a reversal, which prevents them from fully realizing potential profits and undermines their overall trading performance.



# 3. Revenge Trading

Understanding impulsive trading behaviors

## Definition

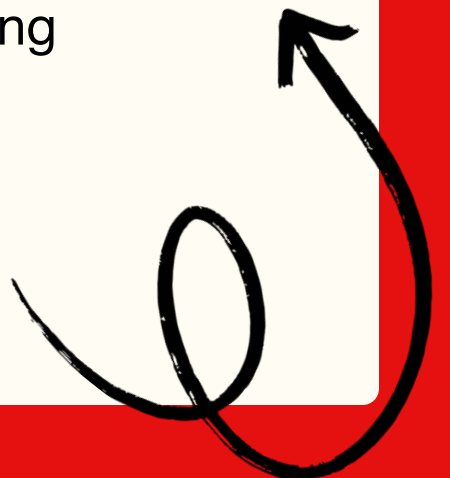
Revenge trading occurs when traders make larger trades immediately after experiencing losses, driven by an emotional impulse to recover their lost capital and regain confidence.

## Risk-Taking

This behavior often leads to increased risk-taking, where traders abandon their strategies, making impulsive decisions based on emotions rather than sound analysis and planning.

## Recognizing Patterns

By identifying revenge trading patterns, the tool can help users become aware of these risky tendencies, allowing them to make more rational and informed trading decisions.





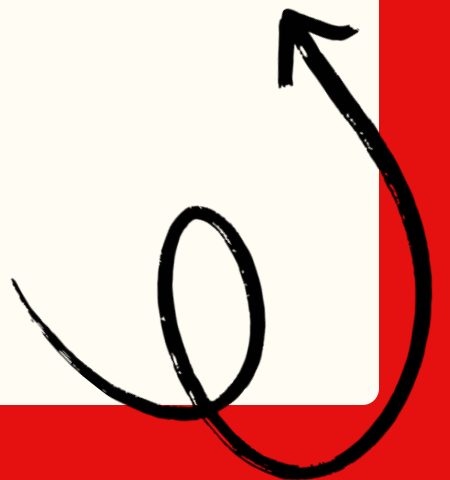
# Feedback & Recommendations

## The tool should provide:

- Bias summaries ("You may be overtrading during high-volatility periods.")
- Graphical insights (charts, timelines, heatmaps)
- Personalized suggestions, such as:
- Daily trade limits
  - Setting stop-loss discipline
  - Cooling-off periods
  - Journaling prompts for trading psychology

## Optional features to include:

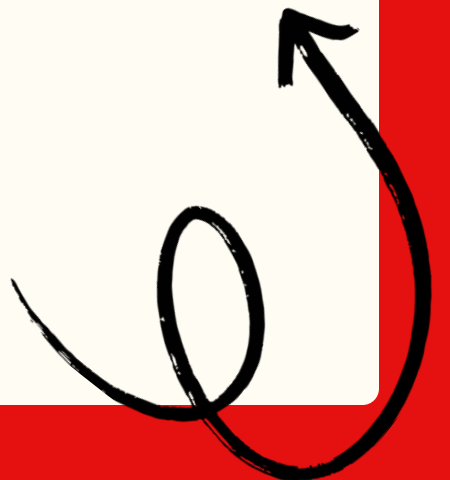
- Identify more kinds of biases
- Portfolio optimization suggestions
- Sentiment analysis of trader notes
- Risk profile scoring
- AI model predicting future bias-triggering situations
- An AI "trading coach" chatbot
- Stress or emotional state tagging



# How to incorporate creativity

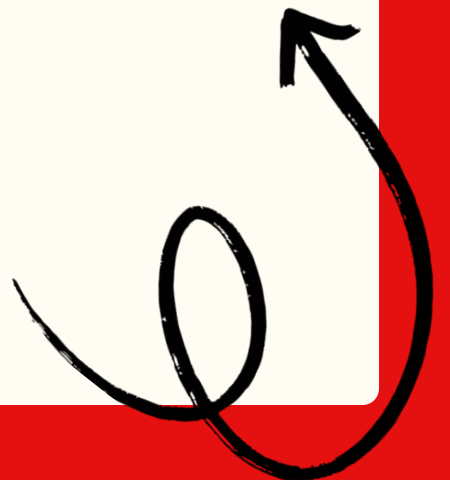
Teams can enhance their projects by integrating features like **AI sentiment analysis**, personalized coaching chatbots, and advanced portfolio optimization tools to support informed trading decisions.


Focus on meaningful behavioral signals rather than data volume. Ensure insights are clear and actionable, leveraging National Bank colors and finance visuals to enhance presentation and user experience.



# Judging Criteria

Projects will be assessed based on performance, creativity, behavioral finance insight, and personalization, ensuring that innovative solutions effectively meet the challenge's goals and user needs.



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# Start Building!

Let's innovate and collaborate!