PROMETEO 2026

INNOVATE IMPLEMENT IMPROVE

QUANTALYTICS

PROBLEM STATEMENT

ABOUT PROMETEO

Prometeo 2026 marks the sixth installment of IIT Jodhpur's National Technical and Entrepreneurial Festival. Deriving its name and vision from the Greek fore-thinker “Prometheus”,who imparted the knowledge of technology and civilization to humanity,Prometeo aspires to elevate innovation, channeling creative ideas towards an enhanced impact at the forefront of progress. It features a dynamic blend of talks, workshops, and competitions that immerse participants in the vast world of emerging technology. In an age marked by formidable challenges confronting humanity, Prometeo aims to foster collaboration and nurture a community of innovators contributing to the
world’s technological prowess to overcome, for its ultimate goal is to elevate, transform and conquer.

INTRODUCTION

Greetings, tech enthusiasts and quant fanatics! Quantalytics is a quantitative research event designed for aspiring quants and financial enthusiasts. The primary goal is to develop, backtest and evaluate a quantitative trading strategy specifically targeting the Problem Statement given. Participants are required to either develop their own methods or explore existing quant and statistical tools to automatically detect trading signals and assess their strategy's effectiveness.

OBJECTIVE

Participants are challenged to develop, backtest, and evaluate a quantitative trading strategy using advanced quantitative and statistical tools. The strategy must specifically target trading opportunities within the XAU/USD (Gold) and XAG/USD (Silver) markets. The event emphasizes building models thatautomatically detect trading signals from price and volumedynamics, with a strong focus on robust strategy design, rigorous analysis, and comprehensive performance evaluation under varying market conditions.

REQUIREMENTS & CONSTRAINTS

1. Data Access

- Participants must use the historical data for XAU/USD and XAG/USD provided through the official Google Drive link mentioned below
  Data - Click Here
- No other data sources are allowed. Using data from unapproved sources will lead to immediate disqualification.
- Manipulating original data or altering the dataset to influence outcomes will also result in immediate disqualification.

2. Strategy Guidelines:

- Your strategy must generate and trade at least 10 times per month and not exceed 100 trades per day.
- Participants may develop custom models or utilize established quantitative and machine-learning techniques to detect trading signals.
- Only one strategy is allowed per submission.
- Assumptions used in the strategy (e.g., market behavior, volatility estimates, must be clearly documented.

3. Transaction Cost Model:

- Each executed order will incur a commission of flat $2 or 0.002%(i.e 0.00002*trade value) of the trade value (whichever is lower). Participants must incorporate these costs into their strategy and performance analysis.

4. Performance Evaluation:

Metrics (in decreasing priority):

- Sharpe Ratio
- Sortino Ratio
- Win Rate (Profitability %)
- Gross Profit
- Net Profit
- Maximum Drawdown
- Gross Loss
- Average Holding Duration per Trade
- Average Winning Trade
- Total Closed Trades
- Average Losing Trade
- Buy-and-Hold Return of Nifty Bank Index
- Largest Losing Trade
- Largest Winning Trade

5. Backtesting Tools:

Participants may use any libraries or platforms for analysis and research. However, the final strategy implementation, backtesting, and result generation must be performed strictly using the backtesting.py library. Submissions not implemented and evaluated using backtesting.py will be disqualified. All tools and libraries used must be clearly mentioned in the report.

Official documentation: https://kernc.github.io/backtesting.py/

6. Judging Criteria (in decreasing priority):

Strategies will be judged based on:

- Performance on Unseen Data
- Strategy Metrics
- Strategy Logic
- Risk Management
- Code Quality
- Report Quality

7. Disqualifications:

- Any discrepancies between reported and actual outcomes may lead to disqualification.
- Use of data from sources other than the provided websites or manipulation of the original data will result in immediate disqualification.

8. Additional Guidelines:

- Late submissions will be penalised.
- Clearly state assumptions and rationale for parameter selections.
- Incorporate dynamic position sizing and appropriate risk management techniques to enhance strategy performance.

SUBMISSION GUIDELINES

Participants must submit only 1 zip file with file name as "Team_Name.zip" containing the following:

1. Research Report (.pdf):
   - A research report in pdf format detailing the strategy's methodology, assumptions, findings, and areas for improvement.

2. Source Code (.py):
   - The source code in a .py file that generates outputs for all required metrics and it should take only one parameter as input i.e. csv file

3. Requirements.txt (Optional):
   - A requirements.txt file must be included to specify any additional dependencies or setup instructions necessary for evaluating the strategy on an unseen data patch.

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