Evaluative Assessment - Quant Intern

Assignment Objective:
The objective of this pre-assessment assignment is to evaluate your ability to analyze Nifty 50 data, develop price-based indicators, and test them using data analysis techniques and machine learning models. The assignment will focus on utilizing historical Nifty data up to the end of 2022 to develop and backtest indicators for predictive analysis.

Deadline: **12 May 2024, 11:59 PM IST**

Data Dump:
Historical **Nifty data** up to the end of 2022 will be available for training your models. Additionally, you are encouraged to use as much historical data as you find necessary to enhance the accuracy of your analysis.

Tasks:

1. Data Analysis:
    - Utilise the provided Nifty data to identify and analyse trends, patterns, and correlations.
2. Machine Learning Models:
    - Implement a machine learning model (e.g., Standard Deviation) to predict Nifty movements based on the developed indicators.
    - Train the model using the historical data up to the end of 2022.
    - Test the model's performance on the 2023 dataset for a **one-year backtesting period.**
3. Testing Frequency:
    - Perform testing and evaluation of the developed indicators and machine learning models on a **daily timeframe**.

Deliverables:

1. Report:
    - Prepare a comprehensive report documenting your analysis, methodology, findings, and insights.
2. Results:
    - Present the results of the backtesting process, including performance metrics, accuracy rates, and any observed trends or patterns.
3. Code:
    - Submit well-commented and organized code scripts used for data analysis, indicator development, machine learning model implementation, and testing.

Additional Perks:

1. PPI Interviews:
    - Top performers in the assignment will be eligible for **PPI (Personal Potential Interviews)** with senior members of Blockstart Ventures.

- PPI interviews provide an opportunity to discuss your analysis, methodology, and insights in further detail, as well as explore potential roles within the company.

2. Cash Prize:
    - A **cash prize of up to $200** will be awarded based on performance.
    - Performance will be evaluated based on the accuracy, innovation, and effectiveness of your analysis, indicators, and machine learning models.

Submission Guidelines:

- Submit all deliverables via email to **proflex@blockstart.one** by the specified deadline.

Note: If you encounter any challenges or require additional resources during the assignment, feel free to reach out for assistance.

Good luck with your assignment, and we look forward to reviewing your analysis and findings!
Blockstart LLC