

AVANEENDRA TRIVEDI

Quantitative Researcher · Market Microstructure & Systematic Research

+91 9098260879 · avaneendra22@gmail.com · India

[LinkedIn](#) · [SSRN](#) · [Google Scholar](#) · [Portfolio](#) · [GitHub](#) · [Substack](#)

Independent quantitative researcher with **11 authored papers on SSRN**, and more than 5,100 downloads. **Built the models and wrote the code** behind studies of price impact, dealer funding, ETF rebalancing and institutional trading calendars. Tests predictions on withheld data and reports failed pre-registered hypotheses.

SELECTED QUANTITATIVE RESEARCH

Separating Flow-Driven from Information-Driven Price Impact Across Asset Markets

Apr 2026

- Built a cross-asset order-flow-to-price model with positive-semidefinite, reciprocity and no-round-trip constraints. Estimated its response using constrained convex optimization in Python (CVXPY / CLARABEL).
- On calibrated synthetic BTC/ETH data, achieved **76-82% out-of-sample R-squared**. The public trade-archive pipeline runs, while depth-based empirical validation remains open. [SSRN 6450561](#).

Overlapping Institutional Trading Calendars and the Direction of Overnight Returns in U.S. Equity Markets

May 2026

- Built an ex-ante calendar-overlap measure and tested it across **15 ETFs and 32,130 ETF-days (2016-2024)** using a pre-registered design and 1,000-draw calendar randomization.
- The pre-registered reversal hypothesis failed. The overnight continuation association remained under date-, ETF- and two-way-clustered inference. [SSRN 6818821](#).

A Common Dealer Constraint Behind Persistent Deviations from the Law of One Price

Apr 2026

- Estimated a latent dealer funding constraint from covered interest parity and the Treasury cash-futures basis using constrained optimization. The model was tested against withheld swap spreads during the March 2020 market stress.
- On that held-out market, predicted swap spreads with **18.68 bp mean absolute error**. [SSRN 6457180](#).

Forced Rebalancing in Leveraged ETFs Predicted from Public Disclosure Rules

May 2026

- Derived the daily-reset trading rule from disclosed leverage, fund assets and benchmark returns for **18 leveraged ETF products**. Used public prospectus rules and fixed information cutoffs to predict mechanically required trading.
- Predicted quarter-end VIX-futures position direction in 8 of 8 ticker-episode pairs. The pre-registered daily validation threshold was not met. [SSRN 6715359](#).

TECHNICAL SKILLS

Statistics & Research Probability, time-series analysis, randomization inference, clustered standard errors, pre-registered tests, out-of-sample validation, signal evaluation and walk-forward backtesting

Programming & Data Python (NumPy, pandas, SciPy, statsmodels), SQL, FastAPI, Docker, Git, DVC, MLflow, Parquet.

Markets & Models Market microstructure, price impact, ETF rebalancing, covered interest parity, Treasury basis, swap spreads, convex optimization (CVXPY / CLARABEL), Monte Carlo scenario analysis, CVaR

EDUCATION

Thapar Institute of Engineering and Technology · Patiala, India

Sep 2022 - Jun 2026

B.E., Electronics and Computer Engineering · GPA 8.99 / 10

Relevant coursework Quantitative Finance, Portfolio Theory, Optimization, Probability & Statistics.

RESEARCH SOFTWARE

Momentum Tested Across Six ETFs and Rolling Market Windows

2026

Selects a momentum lookback within each training window, tests the selected rule on the next unseen window, and saves parameters, trades, equity, drawdown and window logs. [Code](#)

AI Trade Research with Fixed Execution Limits and a Tamper-Evident Audit Trail

2026

Separates model-generated trade proposals from paper-order authorization. Symbol, notional, order-rate and kill-switch checks all run before execution. A SHA-256 chain records critical decisions. [Demo](#)

Deal Value and Debt Capacity Under Revenue, Rate, FX and Regulatory Shocks

2026

Reprices DCF, debt capacity, DSCR, IRR and equity value under correlated revenue, margin, rate, FX and regulatory shocks. Reports P05 and CVaR05 loss across seeded scenarios. [Demo](#)

CERTIFICATIONS

- Financial Engineering & Risk Management (Columbia). Derivative Markets (Futures First Academy). Investment Management (HEC Paris / AXA IM). Financial Markets (Yale). McKinsey Forward Program.

HONORS & AWARDS

- **3x** Gold medalist at the National Math Olympiad. Duke of Edinburgh's Award (**Gold**). International English Olympiad (**World Rank 56**).
- Ranked in the top **0.8% of more than 2.8 million** SSRN authors, with **5,100+** paper downloads.