Systematic Equities
Cornell Trading Competition

Introduction
In this case, you will be tasked with developing a systematic trading strategy for four securities: three individual stocks - AAA, BBB, and CCC - as well as one exchange-traded fund (ETF).

The three stocks are distinct and independent, with initial prices set at:

AAA: $50
BBB: $25
CCC: $75

The ETF, composed of one unit of each stock, will reflect the combined value of its constituents. Your objective is to identify and execute trading opportunities across all four instruments, competing against other teams and automated market-making bots. Manual trading will also be permitted.

Case Structure
Upon release of this document, a practice server will be made available for testing your strategies. Sample code for connecting to the exchange, submitting and canceling orders, and retrieving the order book can be found on GitHub: https://github.com/Cornell-Quant-Fund/CTC-2025-Systematic-Equities

On competition day:
You will have 15 minutes to run your strategies live on the practice server. This will be followed by five official trading rounds. Each round spans five trading days, with each day lasting two minutes. Positions and P&L reset between rounds.

Security Dynamics
AAA - Aurora Aerospace Applications
A defense contractor whose price reacts to simulated geopolitical developments. Once per trading day, a classified procurement report is released, indicating which suppliers are likely to receive major government contracts. AAA's fair value adjusts sharply based on whether it is named in these reports and the implied contract magnitude. Traders must efficiently interpret these reports to estimate revised valuations.

BBB - Beacon Bioenergy
A clean-energy company whose valuation is strongly linked to global oil markets. Every two days, a synthetic oil price is broadcast, reflecting market fluctuations. BBB's fair value is

inversely correlated with oil prices, with a lag introduced to mimic regulatory and market delays. Price responses are smoothed over a short time window, requiring anticipation of delayed movements.

CCC - Continental Cargo Corp.
A multinational logistics firm whose valuation depends on global supply chain efficiency and trade route stability. Every two days, a Global Throughput Index (GTI) is released - a synthetic measure of shipping volume across key international ports. Higher GTI values indicate increased logistics activity and revenue potential. CCC's fair value rises with sustained GTI growth and declines in response to credible disruptions affecting key routes.

Rules
Position Limits
At any point during the trading session, your position in each security must remain within the range [-500, +500] units.

Settlements
At the end of each round, all remaining positions are marked to market using the final realized fair value of each security to determine profit and loss (P&L).

Compliance
Orders placed with no intention of execution or designed to manipulate the market are non-compliant. This includes orders meant to distort price discovery or obscure true liquidity. Teams engaging in such practices may be disqualified. If uncertain whether a tactic is compliant, contact the organizers for clarification.

Evaluation
Teams will be ranked based on their cumulative P&L across all trading rounds.