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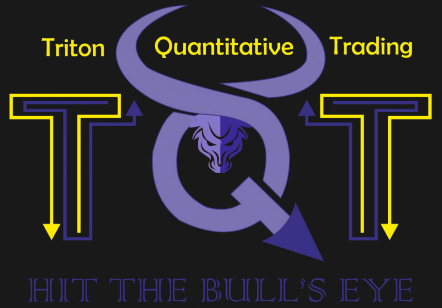
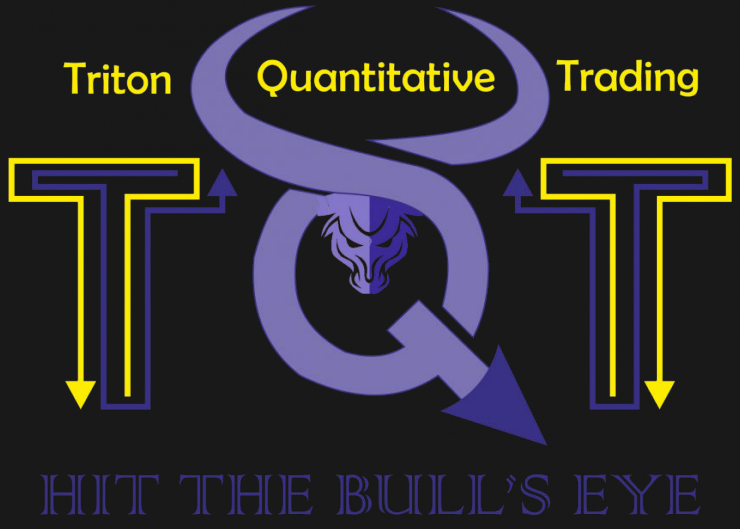


Open GBM
Triton Quantitative Trading
Spring 2025 Launch

Currently:



Jane Street

01

Competes in Various international Quant Competitions!

02

Hosts Workshops/ Seminars

03

Poker Tritons!
AI Poker Workshops (socials)

04

Sponsored by Jane Street!

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Concerns?

- The learning curve for Quant Finance, Algorithmic Trading APIs/frameworks, as well as the statistics, finance, and math behind the models is steep
- Too much time commitment to learn all of this alone in your own time
- Quant is a niche field usually requiring years of further education to pursue professionally
- Quant Finance Resources are scarce: usually behind huge paywalls

How can we facilitate Quantitative Finance without the huge time commitment?

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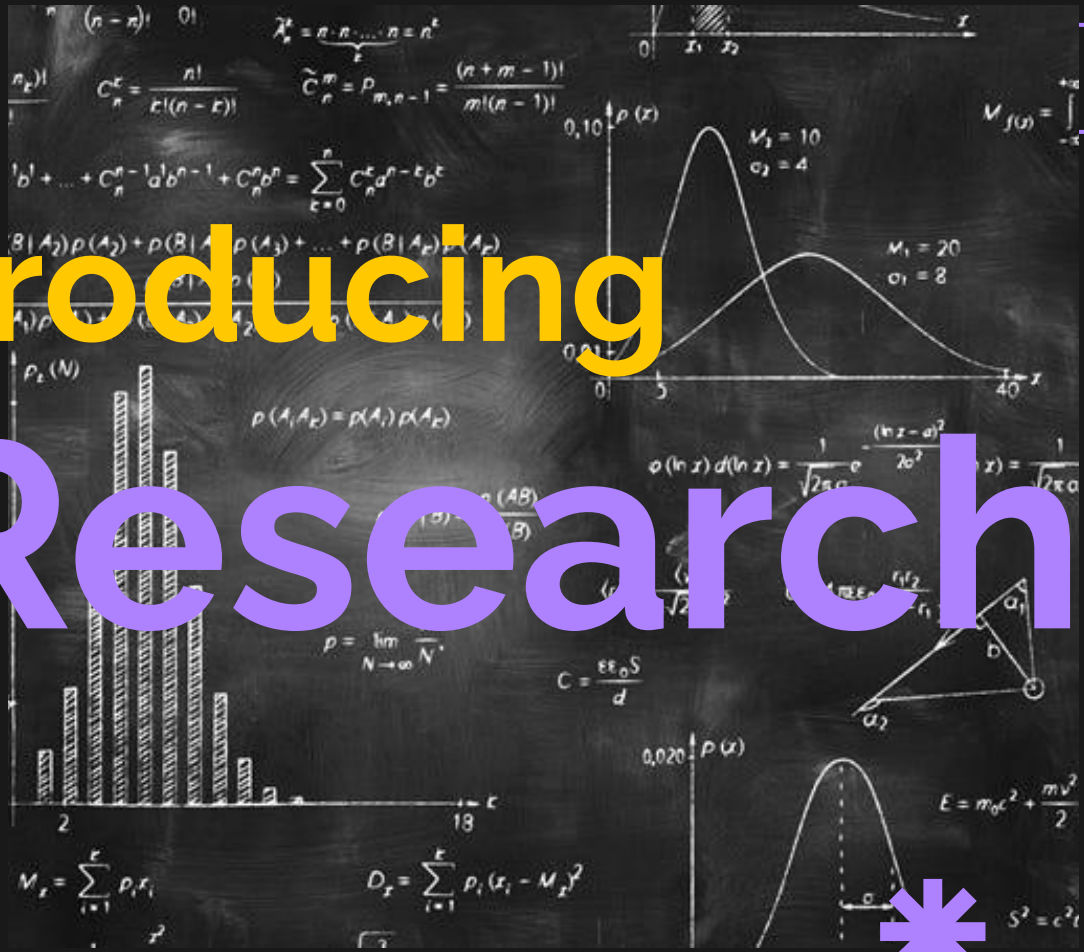


Introducing

TQT Research

Positions Available: (Tier I)

Direct Quant Related Positions:

- Quantitative Developer Researcher (Tier I)
- Quantitative Analyst Researcher (Tier I)
- Quantitative Risk Management Researcher (Tier I)

Alternative Technical Research Positions:

- [Quant-Focused] Machine Learning Researcher (Tier I)
- [Quant-Focused] Data Science Researcher (Tier I)
- Financial Mathematical Researcher (Tier I)

Other Technical/Non-Technical Positions:

- Software Engineer (TQT website)
- Designer

Why this?

What will these positions do?

- You will create post for a strategy/idea that you would like to talk about
- **Very Low time Commitment:**
  - >1 hour of commitment/week
- **Endorsed by CEO QuantConnect to Post on the QuantConnect Forum + Official Discord**

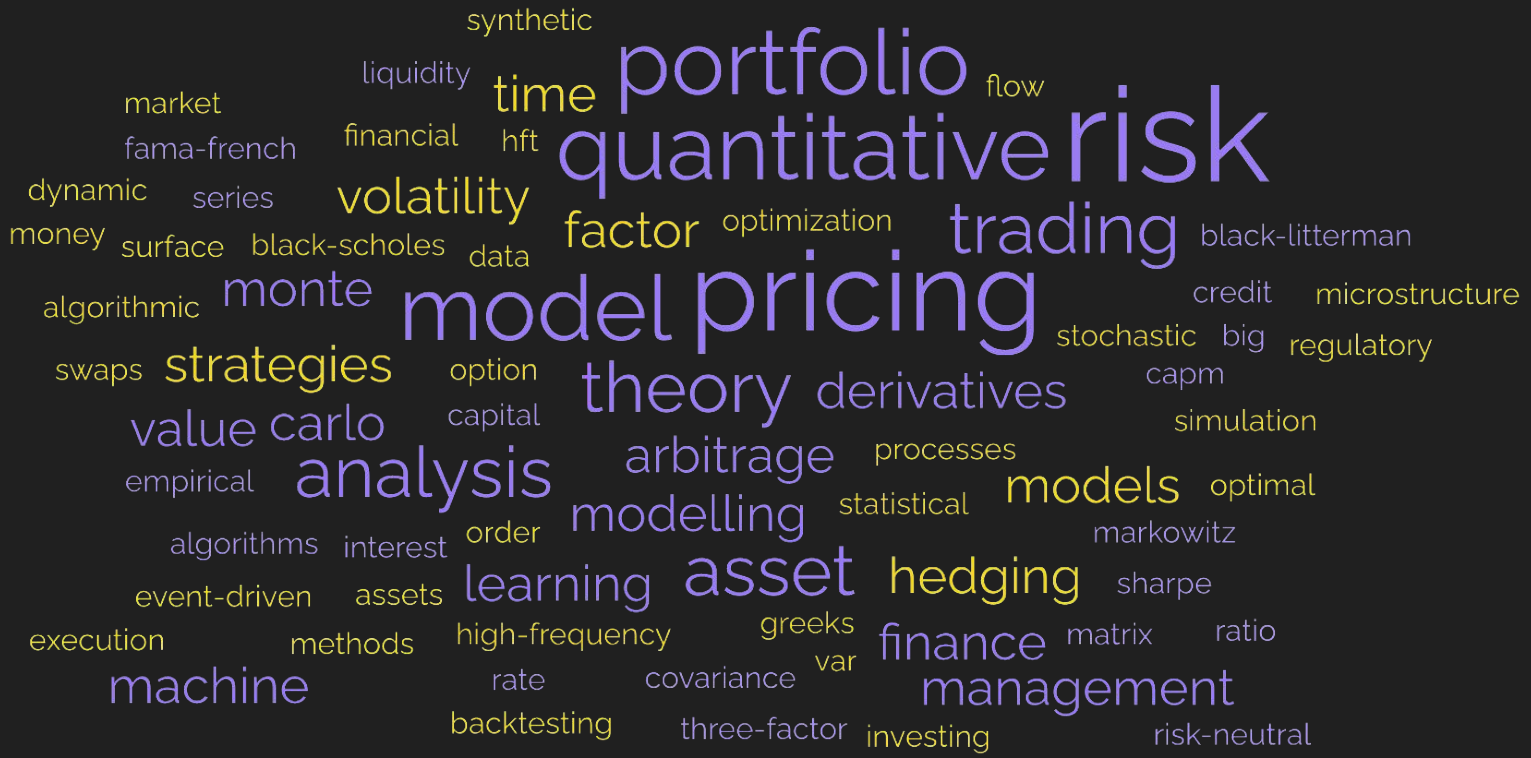
Why This?:

- Easy way for beginners with no background knowledge of quant finance join TQT
- Clear roadmap for progression/how to contribute more within TQT (sneak peek on upcoming slides!)
- Allows for more exposure internationally creating more opportunities for networking/guest speakers/collaborations

The Sky's the Limit!

Quant Roles in Finance - At a Glance

- Quantitative Researcher - Designs mathematical models to predict market behavior and generate alpha.
- Quantitative Analyst - Analyzes data and builds models to price securities and manage risk.
- Quantitative Developer - Implements financial models into production systems using code and technology.
- Quant Trader - Builds ultra-fast algorithms to capitalize on microsecond market movements.


synthetic
liquidity
time
portfolio
flow
market
financial
hft
quantitative
risk
fama-french
dynamic
series
volatility
factor
optimization
trading
black-litterman
money
surface
black-scholes
data
monte
model
pricing
credit
microstructure
algorithmic
stochastic
big
regulatory
swaps
strategies
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asset
hedging
sharpe
event-driven
assets
execution
methods
high-frequency
greeks
finance
matrix
ratio
machine
rate
covariance
var
management
backtesting
three-factor
investing
risk-neutral

Quantitative Developer Researcher

- Explaining QuantConnect’s Lean Algorithm Framework
- Basic Algorithmic Trading Strategies Using Python
- Backtesting: What’s backtesting? Why It Matters?
- Optimization: Speed and Efficiency tailored to Trading Algorithms
- Key Concepts of Order Execution and Slippage
- Overview of Quantitative Portfolio Construction
- How to Implement Portfolio Rebalancing (basic implementation)
- Deploying a Trading Algorithm: Steps and Best Practices
- Common Bugs in Algorithmic Trading and How to Avoid Them
- Introduction to Data Feeds: How to Integrate Them in Your Strategy
- How to Use Custom Indicators in Trading Algorithms
- Building a Market Maker Algorithm: Simple Models

Quantitative Analyst Researcher

- What Does a Quantitative Analyst Do?
- Understanding the Difference Between Fundamental and Quantitative Analysis
- Introduction to Factor Investing
- How to Use Regression Analysis in Finance
- Exploring Mean Reversion Strategies
- Building and Interpreting a Correlation Matrix for Asset Returns
- Exploring the Relationship Between Market Cycles and Quantitative Strategies
- Sentiment Analysis for Stock Market Prediction
- How to Evaluate the Performance of a Trading Strategy
- Explaining the Role of Market Making in Quantitative Trading
- How to Identify and Quantify Market Anomalies
- Using Statistical Learning Techniques to Predict Market Movements

Quantitative Trader Researcher

- What Is Quantitative Trading and How Does It Work?
- Order Books: Finding Arbitrage Opportunities
- A Beginner’s Guide to Statistical Arbitrage
- The Role of Liquidity in Asset Pricing Models
- Introduction to Pairs Trading Strategies
- How to Use Moving Averages in Quant Trading
- The Importance of Market Microstructure for Quant Traders
- The Role of Sentiment Analysis in Quantitative Trading
- Exploring High-Frequency Trading (HFT) Techniques
- Building and Evaluating a Quantitative Trading Model
- Order Flow Analysis: What It Is and How It Affects Trading
- Algorithmic Trading: Identifying Patterns and Trends
- Understanding Backtest Overfitting in Quant Trading

Quantitative Risk Management Researcher

- Risk Management Strategies for Quant Traders
- Value-at-Risk (VaR): What It Is and How to Calculate It
- Stress Testing Your Portfolio: What Are the Risks?
- Understanding Tail Risk in Quantitative Finance
- The Role of Diversification in Risk Management
- Explaining Drawdowns and How to Manage Them
- Managing Leverage in Quantitative Trading Systems
- The Black-Scholes Model and Its Role in Risk Management
- Quantitative Hedging Strategies
- Risk-Adjusted Return Metrics: Sharpe, Sortino, and More
- Scenario Analysis for Stress Testing Portfolio
- How to Measure and Manage Liquidity Risk

ML Research:

- Applying Neural Networks to Predict Stock Prices
- Using Monte Carlo Simulations for Option Pricing
- How Reinforcement Learning Can Optimize Trading Strategies
- Using NLP for Sentiment Analysis in Financial Markets
- Introduction to Time Series Forecasting in Finance
- Clustering for Portfolio Optimization
- Exploring Supervised vs. Unsupervised Learning for Financial Data
- Building a Simple Trading Model with Deep Learning
- Deep Q-Learning for Automated Trading Systems
- Introduction to Generative Adversarial Networks (GANs) in Finance
- Using Feature Engineering for Better Trading Model Performance
- Exploring Transfer Learning for Financial Applications

Data Science Research:

- Data Cleaning Techniques for Financial Data
- Visualizing Financial Data: Key Techniques and Tools
- Creating Custom Universes: A Beginner’s Guide
- Data Sources for Quantitative Research: Where to Find Them
- Building a Trading Dataset: What Data Should You Include?
- Exploring Alternative Data for Quantitative Analysis
- The Importance of Data Normalization in Quantitative Models
- Feature Selection for Machine Learning Models in Finance
- Using Data Visualization to Identify Market Trends
- Analyzing Financial Statements for Quantitative Insights
- Dealing with Missing Data in Financial Time Series
- How to Use Public Financial Datasets for Quantitative Research

Financial Mathematical Research: *

- The Basics of Quantitative Finance: An Overview
- The Role of Stochastic Processes in Financial Models
- Exploring the Black-Scholes Option Pricing Model
- Understanding Statistical Arbitrage in Quantitative Finance
- Game Theory and Its Application to Financial Markets
- How to Build and Solve Basic Financial Models
- The Mathematics of Portfolio Optimization
- Markowitz's Efficient Frontier: What It Is and Why It Matters
- Understanding Brownian Motion and Its Role in Finance
- Derivatives Pricing with Partial Differential Equations
- Risk-Neutral Pricing and Its Mathematical Foundation
- Game Theory Applications in Market Behavior

What's Next? (Tier II)

Left wanting to participate more to TQT? I have the solution!

- **Get Promoted!**

Quant Tier II Positions:

- **Quant Developer Researcher (Tier I) → Quant Developer Specialist (Tier II)**
- **Quant Risk Management Researcher (Tier I) → Quant Risk Management Specialist (Tier II)**
- **Quant Analyst Researcher (Tier I) → Quant Analyst Specialist (Tier II)**

Alternative Technical Tier II Positions:

- **Quant Machine Learning Researcher (Tier I) → Quantitative ML Specialist (Tier II)**
- **Quant Data Science Researcher (Tier I) → Quantitative Data Science Specialist (Tier II)**
- **Financial Mathematical Researcher (Tier I) → Financial Mathematical Specialist (Tier II)**

How To Get Promoted?

All you need to do to get promoted is:

- Apart from creating strategies/idea posts, you will **give at least 1 seminar per quarter**:
  - Seminar includes: Creating slides + 45m-1hr seminar of any topic of your choice!

- Specialists (Tier II) are **eligible for Representing UCSD in Quantitative Finance Competitions** (QuantConnect Open Quant League, IMC Prosperity, WorldQuant IQC, many more!)
- Encourages leadership skills and personal development in Quant/Fintech
- Leads to mastery of the topic you are presenting
  - Feeling stuck coming up with a seminar? We are here to help! Message us anytime for guidance

Current Exec. Board Members:

Peeyush Jha

Incoming Masters in Computational Finance @Carnegie Mellon University

Rudy Osuna

Fintech Software Engineer Intern @LPL Financial

Carter Tran

Software Development Engineer Intern @Amazon

Jerry Yang

Software Development Engineer Intern @Amazon

Oscar Khaing

Data Engineering @PIMCO

Marc Boudames

Self Employed: Financial Derivatives Research

Our Biggest Event Yet...

@TQT_UCSD

X

TQT x LPL Financial

- max 40 attendees
- LPL Conference Room 4/17

- Dinner will be provided
- Uber provided (TBD)

- Internship applications for summer 2026
- LPL Employees kick off the seminar

Triton Quantitative Trading
TQT
HIT THE BULL'S EYE

LPL Financial

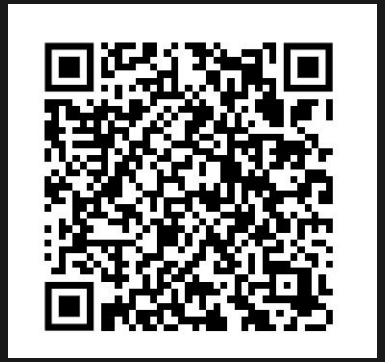
Best opportunity to network and learn from Engineering roles in Fintech

@TQT_UCSD

This is an Open GBM!

- Meaning: we are fully encouraging and supporting everyones opinions and concerns
- Feel free to share any questions you might have regarding our new boards structure
  - To further encourage voicing opinions, members who join us will be part of TQT's 1st official GBM before midterms
- Non-traditional GBM's: Quick casual Stand Up style meeting:
  - Every person voices how they feel about the club, what they like, and changes they would like to see.
- Introducing 3 GBM's per quarter (Week 2, Week 4, Week 7)

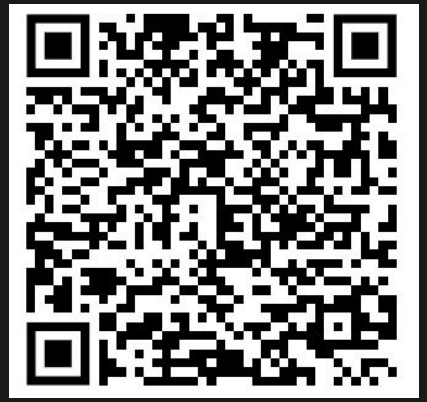
Interested? Apply Here!:



Thank You!

Free Food? Please fill this:

Comments, Concerns? Critique us:



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Schedule:

Week 2: Open GBM! (logistics and planning)

Week 3: LPL Financial Seminar! (lead by exec board members)

Week 4: Seminar + 1st official GBM (just to talk about our progress and work within the club and get every members opinion. kinda like standups in tech but way more casual and relaxed)

Week 5: Midterms (no seminars/workshops)

Week 6: Another Seminar (see spreadsheet for seminar ideas)

Week 7: Last GBM of the quarter! + Guest Speaker! (QuantConnect)

Week 8: TBA (either seminar or could bring another guest speaker?)

Week 9: Midterms (no seminars/workshops)

Week 10: Finals (no seminars/workshops)