

# Lucas Bhatia

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## EDUCATION

### University of Kentucky

Lexington, KY

B.S. Mathematical Economics, GPA 3.528 | Dean's List | Expected Fall 2026 / Spring 2027

- Treasurer - Math Club | Member - Economics & Finance Society | UK Innovate
- Coursework: Time Series Analysis, Calculus I-IV, Linear Algebra, Stochastic Processes, Econometrics, Machine Learning, Probability & Statistics, Decision Making Under Uncertainty, Cost-Benefit Analysis

## TECHNICAL SKILLS

**Languages:** Python, Swift, TypeScript, JavaScript, SQL

**Frameworks:** Next.js, React, SwiftUI, Node.js, Tailwind CSS

**Data & ML:** pandas, NumPy, scikit-learn, arch (GARCH), statsmodels, TensorFlow

**Infrastructure:** Supabase (PostgreSQL/Auth/Realtime), Vercel, Railway, GitHub Actions CI/CD, Docker, Stripe

**Quantitative:** Portfolio optimization, risk modeling (VaR/CVaR), backtesting, algorithmic trading systems

**AI & Automation:** OpenClaw AI orchestration, multi-agent systems, prompt engineering, autonomous dev workflows

## PROJECTS & VENTURES

### IOSTrade - Algorithmic Trading Platform

2025 - Present

Founder & Lead Developer

- Built full-stack algorithmic trading engine deployed on Railway running 7 concurrent strategies (trend-following, mean reversion, carry, volatility, cross-asset, ML-based) with automated execution via Alpaca API.
- Engineered real-time risk management pipeline with 4% position concentration limits, Kelly criterion sizing (20%), trailing stops, and automated holiday/after-hours market logic.
- Developed iOS companion app in SwiftUI for live portfolio monitoring, strategy performance dashboards, and push notifications on trade execution.
- Implemented ML strategy layer using historical price data, technical indicators, and cross-asset signals for adaptive signal generation.
- Managing ~\$97K paper trading portfolio with 90%+ engine cycle success rate and sub-8ms database latency.

### SlipEdge - Sports Betting Analytics Platform

2025 - Present

Founder & Lead Developer

- Designed and built a Bloomberg-style web application (Next.js + Tailwind CSS + Supabase) featuring live odds boards, bet slip builder, bankroll management, social feeds, and analytics dashboards.
- Developed companion iOS app (SwiftUI) with 98 unit tests covering odds formatting, parlay calculations, bet validation, input sanitization, and Apple Sign-In authentication flows.
- Built automated odds ingestion pipeline pulling from The Odds API into Supabase with Vercel cron jobs, serving real-time spreads, totals, and moneylines across NBA, NFL, MLB, and NHL.
- Implemented enterprise-grade offline mode with network monitoring, cached data indicators, and graceful degradation.

### AI-Powered Development & Orchestration

2025 - Present

- Architected multi-agent AI orchestration system using OpenClaw to manage autonomous development workflows across 4+ concurrent projects with specialized sub-agents for coding, research, and project management.
- Presented at UK Innovate on leveraging AI tools for software development, demonstrating how AI-assisted workflows accelerate product development from concept to deployment.
- Built autonomous dev loop protocol: agents pull tasks from Mission Control API, execute work, verify builds, and scan for improvements with zero human intervention.

### Quantitative Research Projects

2025

- Volatility Forecasting: Engineered GARCH(1,1) model to forecast daily/annualized volatility; backtested volatility-targeting strategies stabilizing annualized vol at ~10% with Sharpe and drawdown analysis.
- Multi-Asset Portfolio Analysis: Built 3-stock portfolio system computing Alpha, Beta, Sharpe/Sortino/Treynor ratios, Max Drawdown, VaR, and CVaR for comprehensive risk-adjusted performance assessment.
- Stock Price Prediction (AAPL): Designed linear regression model integrating technical indicators (5/20-day MAs, lagged returns, S&P 500 cross-market variables); validated with VIF, Breusch-Pagan, Durbin-Watson; evaluated via MSE/RMSE.

## PROFESSIONAL EXPERIENCE

### Import / Export Specialist & Developer - CB Service Broker

Jul 2017 - Present

- Manage \$10M+ in cargo shipments across truck, ocean, and air freight with full regulatory compliance.
- Perform HTSUS tariff classification, prepare Importer Security Filings, and conduct self-audits for customs clearance.
- Coordinate with brokers, carriers, and government agencies to ensure timely delivery and documentation accuracy.
- Built full-stack business management portal (Next.js + Supabase) featuring shipment tracking, document exchange, client task management, and integrated Stripe payments.
- Implemented Row-Level Security policies, input sanitization across 7 API routes, rate limiting on 6 endpoints, OFAC denied party screening, and audit logging for regulatory compliance.

- Built admin analytics dashboard with reports module (shipment volume, revenue tracking, compliance metrics) and Excel/PDF export.

**Men's Basketball Manager - University of Louisville Athletics***Aug 2021 - Apr 2022*

- Supported Division I athletic staff in player preparation, training logistics, and recovery operations.
- Filmed practices and facilitated data-driven performance analysis for coaching staff game planning.

**Restaurant Host - NCL Pride of America***Oct 2022 - Feb 2023*

- Coordinated guest seating and managed reservation flow for 2,000+ passenger cruise ship dining operations.
- Collaborated with cross-functional teams to reopen and staff multiple venues post-COVID.

**Team Member - Chick-fil-A***Feb 2020 - Jun 2021*

- Delivered high-quality service in fast-paced environment; awarded Chick-fil-A Remarkable Futures Scholarship for performance and leadership.

**AWARDS & LEADERSHIP**

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- Dean's List - University of Kentucky (Multiple Semesters)
- Chick-fil-A Remarkable Futures Scholarship
- UK Innovate - Presented on AI-Assisted Software Development
- Treasurer - UK Math Club