Andrew Diaz

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Professional Summary

- Quantitative Analyst and Engineer with a proven ability to architect and deploy profitable, end-to-end systematic trading strategies. Combines a rigorous engineering background with self-taught expertise in financial markets, machine learning, and advanced data analysis. Successfully built and managed a quantitative sports betting model from concept to live, real-money deployment. Seeking a quantitative researcher or trader role to leverage a unique blend of technical skill, entrepreneurial drive, and a demonstrated capacity to generate alpha.

Quantitative & Technical Skills

- **Programming Languages:** Python, C, MATLAB, JavaScript
- **Python Libraries:** Pandas, NumPy, Scikit-learn, XGBoost, Matplotlib, Requests, Beautiful Soup
- **Technical Applications:** Machine Learning, Data Modeling, Time-Series Analysis, Web Scraping, API Integration, System Design
- **Financial & Strategic:** Quantitative Modeling, Systematic Strategy Development, Risk Management (Kelly Criterion), Portfolio Analysis, Game Theory Application, Algorithmic Execution

Experience

- **Quantitative Researcher & Trader (Self-Directed)** | Gainesville, FL | Jan 2019 – Present
- **Systematic Table Tennis Trading Strategy (Pro Table Tennis)** Developed a complete, profitable, and systematic trading model for a niche, high-frequency sports market. Managed the entire project lifecycle from data acquisition and feature engineering to backtesting and live, real-money capital deployment.
  - **Alpha Generation:** Architected a predictive model in Python using XGBoost to identify market pricing inefficiencies. The model's edge is derived from quantifying nuanced, non-obvious factors such as player fatigue curves, psychological pressure indicators, and match narrative momentum.
  - **End-to-End Pipeline:** Engineered a robust data pipeline for ingestion (pro_table_tennis_advanced_stats_FIXED.csv), advanced feature engineering (advanced_feature_engineering.py), chronological backtesting, and systematic signal generation for live execution.
  - **Risk Management:** Implemented a disciplined risk management framework based on a **Quarter Kelly (25%)** criterion to optimize bankroll growth, enforcing a hard cap of 4% of bankroll per wager to minimize volatility and preserve capital.
  - **Performance:** Achieved the following performance metrics over a rigorous **3,522-bet backtest**, demonstrating a consistent and verifiable statistical edge:
    - **Return on Investment (ROI):** 4.04%
    - **Annualized Sharpe Ratio:** 5.33
    - **Maximum Drawdown:** 27.68%
- **Crypto & Poker Market Operations** Applied quantitative principles and game theory to find and exploit edges in high-stakes, competitive markets.
  - **Crypto Margin Trading:** Grew an initial $5,000 investment to a peak of $700,000 through disciplined, systematic trading on the decentralized exchange DYDX during the 2021 bull market.
  - **Professional Poker:** Utilized game theory optimal (GTO) solvers (PioSolver, GTO Wizard) to perform deep data analysis on game dynamics, leading to significant bankroll growth and the coaching of other players.
- **Electronics Engineer** | Molycop | Gainesville, FL | Apr 2023 – Dec 2023
  - Designed, built, and tested fault-tolerant circuits and data communication systems for industrial-grade mill monitoring equipment, ensuring high-reliability data transmission in noisy environments.
- **Product Marketing Engineer (Intern)** | Texas Instruments | Dallas, TX | May 2017 – Aug 2017
  - Conducted data analytics on extensive financial and sales datasets to derive insights into product performance, identify new customer segments, and inform business growth strategy.

Education

- **B.S. in Electrical Engineering** | University of Florida | Gainesville, FL | Fall 2018

REFERNCES AVAILABLE UPON REQUESTS