Achintya Jha

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Experience

ASU Investment Management Fund ($3M AUM) Tempe, AZ

Quantitative Analyst – Systematic Strategies *Aug 2025 – Present*

- Managed $180k equity allocation within $3M fund; developed multi-factor strategy (quality, momentum, low-vol) delivering **3.2% annualized alpha vs. Russell 3000** in 5-year backtest; **+1.1% excess** in 2024 OOS; IR 0.8.
- Designed automated research pipeline analyzing **50K+** earnings transcripts and SEC filings to identify management sentiment shifts and capital expenditure changes; framework currently tracking **+130 bps YTD** vs. benchmark.
- Built portfolio construction with sector neutrality, **3%** max position, and turnover controls; reduced annual turnover from **65%** to **38%** while retaining **90%** of unconstrained alpha.
- Established pre-trade risk monitoring for factor exposures (value, momentum, quality, size, volatility), sector deviations (±5% vs. benchmark), and concentration; identified and prevented **4** potential violations.

Tzar Labs Remote

Data Engineering Intern *May 2024 – Aug 2024*

- Designed large-scale data infrastructure processing **2+ TB** of genomic datasets; achieved **5**× pipeline throughput via parallel I/O and memory optimization.
- Built production API integrating **15+** external sources with robust validation and monitoring; delivered reliable, scalable research data services.

Research Projects

Regime-Switching Pairs Strategy with Microstructure Filters github.com/achntj/statistical-arbitrage

- Developed 3-regime Hidden Markov Model over Ornstein–Uhlenbeck mean-reversion metrics for **40** sector-neutral pairs; traded only high-reversion states (half-life < 5 days) to improve capital efficiency.
- Added bid–ask bounce filter requiring both legs to cross the same spread side within **200ms**; reduced false signals **40%** and improved directional accuracy **51%** $\rightarrow$ **58%**.
- Backtested **2018-2024** with conservative costs (10bps slippage, 30% adverse selection); achieved **Sharpe 0.9 post-costs** vs. 0.3 baseline; documented alpha concentration in 8 pairs and capacity limits near **$5M AUM**
- Discovered regime asymmetry: mean-reverting states persisted 18 days vs. 6 for divergent states; optimal re-entry after 3-day delay improved Sharpe by **+0.2**

Black–Litterman with Covariance Shrinkage (Multi-Asset) github.com/achntj/robust-portfolio-construction

- Constructed diversified **29-asset** sleeve (equities, Treasuries, TIPS, commodities, REITs) using Black–Litterman with Ledoit–Wolf shrinkage to stabilize mean–variance optimization.
- Implemented long-only, sector limits (±15% vs. benchmark), **12%** vol target, and turnover penalties; reduced rebalancing **28%** $\rightarrow$ **18%** (∼**80 bps** cost savings vs. unconstrained).
- Walk-forward **2015–2024**; OOS **2023–2024** delivered **14.2%** return, **11.8%** vol, **Sharpe 1.2** (vs. 0.6 MVO); momentum/carry views added **+0.15** Sharpe vs. equilibrium-only baseline.

Education

Arizona State University Tempe, AZ

B.S. Computer Science; B.S. Economics ***GPA: 4.0*** *Dean's List (all semesters)* *Aug 2022 – May 2026*

- **Coursework:** Portfolio Engineering, Financial Economics, Probability & Statistics, Regression & Time Series, Optimization, Linear Algebra, Econometrics, Game Theory.
- **Leadership**: President, Sun Devil FinTech Club, Economics Instructional Scholar (Top 9)

Skills

- **Programming:** Python (pandas, NumPy, statsmodels, scikit-learn, cvxpy), SQL, Git, Linux.
- **Investment & Quant:** Portfolio optimization (Black–Litterman, mean–variance), risk (VaR/CVaR, factor models), time series & hypothesis testing, performance attribution, backtesting & walk-forward.
- **Tools:** Excel (advanced modeling), Bloomberg Terminal, GitHub Actions (CI/CD), AWS, Docker.