

Aditya Dhanraj

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EDUCATION

University of Texas at Austin

Bachelor of Science in Computer Science

Austin, TX

May 2027

- SAT: 1580 | Student Organizations: UTexas Energy, ML & Data Science, UT Programming Contest, ACM, ABSA

INVITE-ONLY 2025 EARLY TALENT & INSIGHT PROGRAMS

- **Citadel** – The Fixed Income & Macro Challenge (NY)
- **Walmart** – Spring Sophomore Summit: SWE II Intern (AR)
- **ServiceNow** – Discover Program – Engineering (CA)
- **Goldman Sachs** – Asia Possibilities Summit
- **Bank of America** – Global Tech Early Insights Forum
- **Stout** – Future Leaders in Finance
- **SIG** – First-Year Discovery Day
- **J.P. Morgan** – Virtual Freshman Focus
- **UBS** – Tomorrow's Talent Equity Research Insights Day (NY)
- **Bain & Co** – 2025 Consulting Kickstart
- **SMBC** – Sophomore Launch Program
- **PGIM** – 2025 APA Student Summit

EXPERIENCE

Undergraduate Research Assistant

Jan. 2025 – Present

University of Texas at Austin — Market Research, Commodities, Time-Series, Python, Bloomberg

Austin, TX

- Analyzing daily time-series data for over 80 indices and futures, developing a VIX Term Structure, and building a commodities forecasting model to forecast price movements and model market volatility alongside Dr. Travis Johnson

Investment Associate

Sept. 2024 – Present

University Finance Association — Market Research, Valuation, Accounting, Excel

Austin, TX

- Leading the Generalist Industry Group in following the markets and building stock pitches, while also mentoring three junior analysts and providing guidance on accounting principles and valuation techniques

Equity Research Analyst Intern

Oct. 2024 – Dec. 2024

Westlake Securities — Market Research, Valuation, Equities, Excel

Austin, TX

- Produced in-depth equity research reports, including company valuations and detailed market and industry analyses, alongside Westlake Securities' investment banking team

PROJECTS

MacroDynamix — Python, Machine Learning, Market Research, Macro, Statistical Modeling

Apr. 2025 – Present

- Engineered a data pipeline in Python to process over 120 monthly macroeconomic indicators from FRED (1959 - Present), including data preprocessing, categorization, and dimensionality reduction
- Constructed a stacked ensemble regression model to predict S&P 500 returns based on a devised Market Health Index, lagged data, and technical indicators and ultimately achieve 77% R^2 in explaining monthly returns
- Developed a regime classification system using KMeans clustering to analyze market conditions and trends over time

Computational Stock Model — Mathematica, Stochastic Modeling, Equities

Jan. 2025 – Present

- Joining Dr. Thaleia Zariphopoulou in utilizing Mathematica and stochastic processes to compute an expression involving the Moment Generating Function (MGF) for modeling the drift and volatility of stock prices

Financial Market Monitor — Market Research, Equities, Fixed Income, Forex

Sept. 2024 – Present

- Composing periodic market reports on global economic conditions, earnings reports, significant mergers/acquisitions, etc. for over 300 readers, including college students and finance professionals, worldwide

Algorithmic Trading Bot — Pine Script, Python, Statistics, Equities, Forex, Crypto

Oct. 2024 – Dec. 2024

- Constructed a mid-frequency trading strategy using TradingView's Pine Script that, through backtesting:
 - * Yielded a 32.59% return on XAU/USD (1 Hour Timeframe) from Jan 4, 2024 to Dec 27, 2024, outperformed its buy-and-hold by 4.52%, and delivered a Sharpe ratio of 0.952 and a Sortino ratio of 6.69
 - * Achieved a 57.26% win rate, 1.824 profit factor, and a maximum drawdown of 5.84%

SKILLS & INTERESTS

Finance: Market Research, Trading, Macro, Equities, Fixed Income, Options, Commodities, Valuation, Bloomberg

Computer Science: ML, Java, Python, R, C, HTML/CSS/JS, NumPy, Pandas, Scikit-Learn, Linux, Mathematica

Mathematics: Time-Series Analysis, Statistical Modeling, Linear Algebra, Stochastic Processes, Probability & Statistics

Other: Spanish, Hindi, Football (13 Years), Piano (13 Years), Poker, Chess, ANSYS Fluent, AutoCAD