

ANUSH BADIO

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Quantitative Research • Machine Learning • Algorithmic Trading

Website: <https://anushbadii.com>

Hedge Fund System: [https://anushbadii.com/Real\\_McCoy/](https://anushbadii.com/Real_McCoy/)

Python • SQL • Machine Learning • Algorithmic Trading • Data Engineering • Financial Analytics

## PROFESSIONAL SUMMARY

Quantitative developer and data scientist building machine learning systems, algorithmic trading platforms, and real-time analytics environments.

Designed and implemented several production-scale analytical systems including:

- Hedge Fund Autopilot algorithmic trading engine
- Bloomberg-style quant research terminal
- Portfolio analytics and strategy backtesting platform
- AI-driven predictive modeling systems

Focus areas include financial analytics, predictive modeling, automated decision systems, and large-scale data analysis.

## CORE TECHNICAL SKILLS

Programming

Python • SQL • JavaScript • PHP

Machine Learning

Predictive modeling

Time-series forecasting

XGBoost

LSTM neural networks

Quantitative Finance

Algorithmic trading systems

Portfolio optimization

Strategy backtesting

Monte Carlo risk simulation

Data & Visualization

Power BI

Tableau

Streamlit

Chart.js dashboards

Systems Development

API integration

Real-time analytics systems

Automated data pipelines

## PROJECT PORTFOLIO

### HEDGE FUND AUTOPILOT TRADING ENGINE

Website:

[https://anushbadii.com/Real\\_McCoy/](https://anushbadii.com/Real_McCoy/)

Designed and implemented a fully automated trading platform capable of executing algorithmic investment strategies using brokerage APIs.

System capabilities:

- Automated trade execution through Alpaca brokerage API
- Portfolio monitoring and automated order management
- Paper trading and live trading environments
- Risk management and emergency stop controls
- Strategy configuration through Python modules and environment variables

Architecture Overview

Strategy Layer

Python trading strategies generate signals based on technical indicators and risk rules.

Execution Layer

Brokerage API handles trade routing and order execution.

Risk Control Layer

Hard-stop controls and exposure limits ensure controlled portfolio risk.

Monitoring Layer

Real-time system monitoring tracks portfolio exposure, execution results, and strategy performance.

### QUANT RESEARCH TERMINAL

Website:

<https://anushbadii.com>

Developed a Bloomberg-style quantitative research portal providing real-time financial analytics tools.

Capabilities include:

- Live market monitoring dashboard
- Sector heatmap visualization
- Volatility gauge and market regime indicators

- AI trading signal scanner
- Strategy performance charts vs benchmark
- Portfolio risk simulation tools

#### Technology Stack

Python

JavaScript

Chart.js

Financial market APIs

#### PORTFOLIO ANALYTICS & STRATEGY BACKTESTING PLATFORM

Built a financial analytics platform designed to evaluate investment strategies across equities and ETFs.

Capabilities include:

- Portfolio performance monitoring
- Strategy backtesting and performance evaluation
- Benchmark comparison vs market indices
- Risk modeling and portfolio analytics

#### Technology

Python

Pandas

SQL

Visualization dashboards

#### AI TRAFFIC PREDICTION SYSTEM

Developed machine learning models to forecast freeway congestion using traffic sensor data.

Capabilities include:

- multi-step traffic flow prediction
- congestion modeling
- CO<sub>2</sub> emissions analytics
- infrastructure optimization simulations

#### Technologies

Python

XGBoost

LSTM neural networks

SQL databases

## EDUCATION

Master of Science in Engineering , Wayne State University, Detroit Michigan 1973

Focus: systems analytics, infrastructure modeling, and data-driven decision systems.

## RESEARCH INTERESTS

Algorithmic trading

Quantitative finance

Machine learning systems

Predictive analytics

Infrastructure optimization models