Kanwarpartap Singh Brar
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Portfolio: https://kanwarpartap-brar.github.io/portfolio/index.html

EDUCATION

Hofstra University, Hempstead, NY | M.S in Data Science | Dec 2025 | GPA: 4.00
Hofstra University, Hempstead, NY | B.A in Mathematical Economics, Minors in Comp Sci & Engg | May 2024 | GPA: 3.40
CFA (Chartered Financial Analyst) Level 1 Candidate | Exam Date: February 2026

WORK EXPERIENCE

Morrison Mentors - Hempstead, NY | ***Teacher & Mentor*** **June 2022 - August 2025**

- Faced the task of teaching, facilitating, and implementing STEM Education for middle school and high school students, specifically, teaching courses focused on coding, aerospace engineering, drones, and cybernetics (500 + hours of teaching)
- Curated and implemented engaging lesson plans for over 5+ classes, each with 15-25 students, focusing on hands-on learning with Arduino programming and Python-based Tello drone programming
- Enabled 100+ students to gain hands-on experience in Python and drone programming, improving engagement in STEM pathways

CAPSTONE PROJECT

AI-Driven Investment Strategies: Machine Learning Application in Asset Allocation & Risk Management
MS Data Science Capstone, Hofstra University

- Designed a predictive model combining portfolio theory and machine learning to optimize asset allocation in equities
- Engineered features from macroeconomic, sentiment, and price data sources
- Applied models, including ensemble, SVMs, decision trees, logistic regression, and more
- Implemented quadratic programming to maximize risk-adjusted returns through Sharpe Ratio optimization and dynamic asset weighting

PROJECTS

- **Machine Learning Evaluation for UFC Fight Outcomes & Healthcare Diagnostics**
  - Developed and tuned 8 ML models (Logistic Regression, SVM, Decision Tree, Random Forest, KNN, Perceptron) across binary (UFC) and multiclass (healthcare) classification tasks
  - Engineered fighter comparison vectors and patient features with application of feature scaling & 5-fold cross-validation
  - Achieved 67.3% accuracy in UFC predictions with Random Forest & identified ML model limitations in the healthcare dataset due to feature quality and class imbalances
- **Evaluating the Impact of Effective Federal Funds Rate Changes on Sectoral Stock Market Performance**
  - Implemented machine learning models to forecast sectoral stock responses to interest rate changes, providing insights into the impact of economic policy on market dynamics
- **Financial Dashboard Development for GRAB Holdings (2019-2024)**
  - Built a Tableau dashboard visualizing GRAB's Income Statement, Balance Sheet, & Cash Flow trends using multi-year financial data
  - Analyzed changes in revenue, EBITDA, operating margin, and FcF to gain insights on profitability

SKILLS/CERTIFICATIONS & INTERESTS

Retail Investor: Managing a personal portfolio that outperforms major indices by leveraging technical and macroeconomic analysis, with a focus on growth equities, sector rotation, and options strategies
Other Interests: Weightlifting, Golf, long-distance running/biking, & managing a finance focused X profile analyzing markets and macroeconomic trends
Programming & Analytics: Python, R, SQL, HTML5 & CSS3, Java
Data Science Libraries / Databases: Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, Statsmodels, OrientDB, PostgresSQL
Tools & Visualizations: Excel, Tableau, Jupyter Notebooks
Certifications: IBM DS Professional, CFI: FMVA, PWC US Audit, Microsoft: Excel Associate, Mosh: HTML5 & CSS3