Kanwarpartap Singh Brar

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EDUCATION

"Hofstra University, Hempstead, NY | B.A in Mathematical Economics, Minors in Comp Sci & Comp Engg & M.S in Data Science | May 2024 / Dec 2025 | GPAs: 3.40 & 4.00"

WORK EXPERIENCE

Morrison Mentors - Hempstead, NY | *Teacher & Mentor*   **June 2022 - Dec 2024**
- 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)
- Developed 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
- This resulted in students acquiring valuable skills that they will carry with them as they advance toward higher education

United Wine & Liquor - Woodside, NY | *Data Freelance/Contract Work*   **June 2023 - August 2023**
- Sales analysis: Analyzed sales data to identify trends such as best-selling products and customer preferences
- Monitor KPIs such as revenue and profit margins
- Inventory management: To enhance inventory and product tracking capabilities, helped implement a barcode management system that seamlessly integrates with our POS system, like Bottle POS. This implementation has boosted operational efficiency, optimized inventory management, and enhanced support for sales analytics. Onboarding Bottle POS centralized storage of product info, inventory levels, and transaction history, which helped promote efficiency and an approximately 20% increase in sales

PROJECTS

- **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.
- **Analysis of Treasury Yields as Leading Indicators for Mortgage Rates**
  - Formulated a research question to investigate the predictive relationship between treasury yields and mortgage rates using data spanning 24 years from FRED.
  - Employed statistical and machine learning techniques, notably RandomForestRegressor, to develop models predicting mortgage rates from treasury yields, achieving R^2 values near 0.99.
- **Airbnb Market Analysis Dashboard (Tableau):**
  - Developed an interactive Tableau dashboard to visualize Airbnb listing trends and market performance. The dashboard provides users with real-time filtering options, trend comparisons, and performance metrics, aiding in strategic planning and operational improvements.

SKILLS/CERTIFICATIONS

Technical Skills: ARIMA, DCF/LBO/IPO models, Anaconda, DBMS, Postgre, OrientDB, MySQL, Computational Finance, Microsoft Suite, HTML5, CSS, Python3, Mathematical/Economic Modeling, MatLab, STATA, Jupyter Notebooks, Tableau, Microsoft Access | **Certifications:** Microsoft Office Specialist: Excel, IBM Data Science Professional Certificate, CFI Financial Modeling & Valuation Analyst