Anya Bindra

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EDUCATION

Carnegie Mellon University   *Dec 2025*
B.S in Electrical and Computer Engineering   *Pittsburgh, Pennsylvania*

COURSEWORK – Machine Learning, Computer Systems, Functional Programming (SML) , Data Structures and Algorithms. Probability, Discrete Math, Theoretical Computer Science, Matrices and Linear Algebra, Multivariable Calculus, Circuits, Signals

PROFESSIONAL EXPERIENCE

WorldQuant - Quantitative Trading Research Consultant, Brain Platform   *Fall 2023*

- Created alpha models and trading strategies with optimal Sharpe ratio (>1.25) by input metrics on price-volume and fundamental datasets.
- Leveraged time series and cross-sectional operators, backtested algorithm on options and stocks to generate investment returns.

Jefferies Financial Group - Information Technology Analyst, Infrastructure and Security Division   *Summer 2023, Jersey City, NJ*

- Developed an Attribute Based Access Control Engine using Decision Trees, XG Boost and Random Forest classifier algorithms (91% accuracy)
- Implemented a bot subroutine in UiPath (VB, C#) that automates the process of provisioning access to systems, saving 320+ hours of admin work
- Programmed REST APIs using SpringBoot to retrieve Docker Images from a CI/CD pipeline and push them into an elastic container registry
- Learnt about Equity and Debt capital markets, evaluated financial statements in Excel, performed corporate valuation analysis

Jane Street - Quantitative Trading Insight Week   *August 2023, New York, NY*

- Gained knowledge of market making, arbitrage, asset classes and securities through mock trading simulations, estimathons and strategy games.
- Attended seminars and participated in discussions on heuristics and biases, providing liquidity in financial markets and statistics.

Mashreq Bank - Digital Technology Intern: Corporate Banking   *Summer 2022, Dubai, U.A.E*

- Used the NLP BERT transformer model for question answering and information retrieval on structured and tabular data
- Conducted quantitative analysis on logical grouping of CIFs and RMs within the corporate, for increased efficiency in business operations
- Implemented a Fuzzy string matching algorithm for deduplication of client data from an ETL process. Reduced entries by 72% in the database.
- Learnt about integrating Microsoft Outlook via the Graph API, Azure Data lake and CRM into the Pulse platform backend. Incorporated agile and scrum methodologies into development and optimization of client and server side applications.

VC & STARTUP EXPERIENCE

- **Halogen Ventures** Fellow - Seed stage Consumer Technologies Fund. Mapped out a supply chain merger analysis with Akua, a portfolio company. Evaluated startups during Founder Pitch Days. Researched industry trends, drafted an investment memo and term sheet.
- **PayPixl Operations & Strategy Intern** - Launched Hurricam, an Insurtech SaaS product for providing drone imagery during natural disasters. Worked on a go-to-market strategy and finding product market fit. Created financial models and scoped Unit Economics.
- Bluebonnet **Data Science Fellow** - Created a legislative tracker for ARPA funding in a Tableau dashboard for RuralOrganizing.org. Collected, sourced and processed the data in Excel and Python. Visualized geospatial and demographic data.
- **Gitcoin Kernel Web 3 Fellow** - Gained insight on startups in DeFi, NFT, Blockchain industries and token communities

PROJECTS & RESEARCH

Options Pricing | *Python, Excel*   *2022*

- Calculated price and implied volatility of Call and Put European Options using Black Scholes and Binomial model. Calculated $N(d_1)$ and $N(d_2)$. Performed backtesting on historical data from Yahoo Finance.

k-Nearest Neighbor Descent Algorithm on High Dimensional Datasets | *Python, SciPy*   *2021*

- Investigated priority queue implementations for efficient breadth-first search and traversal of a k-NN graph
- Tested the effect of k-NN graph and search parameters(backtracking factor epsilon, number of edges connected to each vertex) on accuracy, indexing and querying time. Developed generalizations based on statistical distribution of points in datasets by considering "curse of dimensionality", concentration of Euclidean distance in higher dimensional data and hubs in reverse NN lists.

Variational Quantum Eigensolver | *Python, Qiskit*   *2021*

- Implemented an algorithm for finding the ground state energy of a LiH molecule using the Variational Quantum Eigensolver Method.Expanded my research to finding the lowest eigenvalue of a matrix by developing variational circuits.

EXTRA-CURRICULAR

- Research Board Analyst, Smart Women Securities. Conduct **stock pitches**, perform DCF and ratio analysis.
- Published a book, Introduction to Quantum Computing with Qiskit. Included machine learning classifier, variational quantum eigensolver, constrained optimization concepts. Implemented using Qiskit SDK.