

ADITYA KUMAR

New York, NY

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Education

Columbia University

Aug 2024 – Dec 2025

M.S. Financial Engineering

New York, NY

Relevant Coursework: Asset Pricing, Optimization Models, Stochastic Models, Alternative Investments, Foreign Exchange, Derivatives

University of Virginia

Aug 2021 – May 2024

B.S. Computer Science | GPA: 3.91 | Rodman Scholar

Charlottesville, VA

Relevant Coursework: Machine Learning, Artificial Intelligence, Data Structures, Probability, Statistics, Corporate Finance, Physics

Experience

CGI

Aug 2023 – Aug 2024

Software Developer Intern

Fairfax, VA

- Formulated and developed a custom large language model chat-bot to answer client specific questions using LLAMA, Snowflake, and retrieval augmented generation, saving division 700,000 dollars.
- Engineered a cutting-edge operating system for transitioning government paperwork to digital forms, utilizing Azure, Snowflake, and OCR for PDF metadata extraction, with automation reducing form generation time by up to 50%.
- Led team of 4 engineers to create LLM based solution for automating client transaction generation from invoices.

PwC

Jun 2023 – Aug 2023

Technology Consultant (Financial Crimes) Intern

Washington D.C.

- Conducted comprehensive data quality assessments on fraud detection models using SQL and Python, analyzing over 110,000 unique data points to ensure data integrity and robustness.
- Directed the automation of financial crime and anti-money laundering machine learning model validation using Python scripting, reducing task completion time by 90%.
- Spearheaded optimization of model risk management, enhancing model governance and validation processes for clients.
- Facilitated client meetings and presentations, translating complex technical findings to actionable insights.

Velt LLC

Dec 2021 – Nov 2022

Co-Founder

Aldie, VA

- Conceived and executed development of a social media fitness app, Spot, utilizing Swift and Firebase.
- Selected to participate in the UVA Darden Incubator Program, raising \$16,000 in funding.
- Launched app on IOS - achieved a user base of 3,000 and managed a 15-person ambassador program nationwide.

Skimli

Jun 2022 – Aug 2022

Data Scientist Intern

San Francisco, CA

- Engineered a Video Summarization AI leveraging DSNeT, resulting in a 30% enhancement in summary accuracy.
- Created a data scraper in Python for video content extraction across hundreds of websites.
- Crafted and integrated a user-friendly UI page using React Native, ensuring seamless user navigation and experience.

Projects

High Frequency Algorithmic Trading Bot

Jan 2024 – Present

New York, NY

- Developing and implementing a high-frequency algorithmic trading bot to automatically buy and sell SPY option contracts based on various technical indicators using Interactive Brokers platform and Python.

Skills and Interests

Programming: Python, C++, Java, JavaScript, Natural Language Processing, Large Language Models, Git, Linux, Swift
Data Science: SQL, Pandas, TensorFlow, PyTorch, NoSQL, R, MATLAB, Analytics, Machine Learning, AI
Software: Excel, VBA, PowerPoint, Tableau, Bloomberg Terminal
Finance: Risk Management, Portfolio Optimization, Financial Modeling, Derivatives Pricing, Arbitrage
Quantitative: Optimization, Partial Differential Equations, Stochastic Calculus, Time Series Analysis, Numerical Analysis, Statistical Modeling, Monte Carlo Simulation, Options Pricing Theory
Interests: Poker (Placed 3 out of 100 at Virginia Poker Club Tournament), Basketball, Traveling, Cooking, Movies

Publications

Identifying Academically At-Risk Students Using Machine Learning Techniques

Dec 2022

<https://journals.gmu.edu/index.php/jssr/article/view/3165>

Fairfax, VA