G S K Pravallika Reddy

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EDUCATION

The University of Chicago — **Chicago, IL**
Master of Science in Financial Mathematics — **Expected December 2025**

- Courses: Portfolio Theory & Risk Management, Python, Option Pricing, Probability & Stochastic Processes

Birla Institute of Technology and Science — **Hyderabad, India**
Bachelor of Pharmacy, Minor in Finance (GPA: 3.82/4.0) — **December 2022**

- Courses: Linear Algebra, Probability & Statistics, Multivariable Calculus, Differential Equations, Object Oriented Programming (Java), Computer programming (C), Financial Risk Analytics & Management, Business Analysis & Management, Derivatives & Risk Management, Security Analysis & Portfolio Management, Econometrics
- Awards: 80% tuition waiver Merit Scholarship for 3 Semesters

SKILLS

Computing: Python, Jupyter, R, VBA, SQL, MATLAB, Tableau, C, C++, Java, MS Office
Knowledge: Financial Markets, Statistical Modeling, Data Analytics, Econometrics, Risk Management, Bloomberg
Trading Products: Currencies, Equities, Commodities, Rates, Securitized Products, Futures, Options, Swaps

EXPERIENCE

JPMorgan Chase & Co — **Mumbai, India**
Quantitative Market Risk Analyst — **February 2023 – July 2024**

- Modelled market risks associated with Currencies and Emerging Markets business in Python by analyzing data from trading and risk systems, improving the accuracy of risk capital under the new FRTB framework by 60%
- Developed a tool to analyze divergences between trading and risk models using profit-loss time series data for each trading desk. Generated statistical metrics to quantify significant observations and back-tested profit-loss with VaR and Expected Shortfall, facilitating decision-making on the desk scope of the FRTB internal models approach
- Created automated visual data analytics by combining large datasets using Python libraries and Tableau for an in-depth analysis of risk capital, key drivers, and offsets across lines of business. Reduced manual effort by 90% and assisted in devising regulatory advocacy strategies, resulting in about $800mn reduction in risk capital for the bank

JPMorgan Chase & Co — **Mumbai, India**
Quantitative Market Risk Intern — **July 2022 - February 2023**

- Designed a dynamic code and dashboard system to evaluate risk factor observations in trades, assess the modeling eligibility of risk factors across asset class-specific categories, and estimate the impact on Expected Shortfall
- Collaborated cross-functionally to build an automated analysis and reporting framework by processing data from Bloomberg and internal systems using Python to provide real-time market and risk insights to senior leadership

RESEARCH

Birla Institute of Technology and Science — **Hyderabad, India**
Time Series Analysis of Equity Instruments — **January 2022 - April 2022**

- Used CAPM model and linear regression to determine the sensitivity of security returns to market changes. Built ARIMA model in R to forecast stock prices, utilizing ACF and PACF plots to determine AR and MA coefficients
- Developed GARCH/EGARCH models for daily, weekly, and monthly returns to estimate volatility. Based on this analysis produced a detailed economic interpretation report for the selected instruments

Birla Institute of Technology and Science — **Hyderabad, India**
Construction of Optimal Portfolios — **August 2020 - November 2020**

- Analyzed historical data of 7 companies using Python, generated excess returns through Single Index Model. Computed weights of optimal portfolios by estimating covariance matrix, plotted the efficient frontier with shorting and without shorting in Jupyter notebook
- Obtained the minimum variance portfolio and Sharpe ratio, constructed optimal portfolios, and proposed investment strategies for two investors aged 30 and 50 using Markowitz Portfolio Theory

EXTRACURRICULAR

Birla Institute of Technology and Science — **Hyderabad, India**
Team Lead, The Wall Street Club — **August 2019 - August 2020**

- Organized live trading sessions and challenges for real-time market strategy exploration, planned personal finance workshops and guest talks on finance industry topics and managed club funds