Nakul Thakare

San Francisco, CA | 415-205-5915 | nakulthakare@gmail.com | On H-1B Visa |**LinkedIn** |**GitHub**

Education

Master of Financial Engineering at UCLA School of Anderson **2017-2018**
Relevant Coursework: Econometrics, Machine Learning, Data Analytics, Stochastic Calculus, Empirical Methods, Computational Methods in Finance, Statistical Arbitrage, Risk Management

Bachelor of Engineering (Honors), Mechanical Engineering at BITS Pilani, India **2009-2013**
Coursework: Algorithms, Numerical Methods, Linear Algebra, Probability and Statistics, Operations Research, Optimization

Skills and CERTIFICATIONS

Certifications: Machine Learning (Stanford University), Neural Networks and Deep Learning (DeepLearning.AI) Data Structures and Algorithms Specialization (UCSD), Chartered Financial Analyst (CFA)
Software Tools: Python, PySpark, Scikit-learn, NumPy, Pandas, R, SQL, Git, LaTeX, SAS, MATLAB, Tableau
Data Science & Miscellaneous Technologies: A/B testing, ETL, Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation), Statistics, Time Series, Hypothesis testing, OOP, OAD, APIs, GIT

Work Experience

Senior Associate (Financial Analytics & Derivatives) | PWC **San Francisco, CA | Feb 2019 - Present**
- Development of MATLAB/Python based models to price complex financial derivatives for different Institutional Clients
- Built a Multinomial Logistic Regression Model in Python to estimate synthetic credit rating of private companies using financial performance metrics for over 700+ US based corporations with a publicly available credit rating
- Executed the data-driven cyber security VaR Model project for a Fortune 500 company, building relational database with proprietary cyber security data and inspiring client business intelligence insights with stories of visualizations to client c-suite audience (DAX – SQL dialect, Tableau)
- Constructed analytics dashboard in Power BI to help clients visualize their capital structure, assets and lease exposure
- Implemented Least squares Monte-Carlo simulation, binomial lattice model, regression, and stochastic models for valuation of numerous complex derivatives including SPAC warrants, PSU awards (Performance Share Units), convertible bonds, swaps, contingent considerations
- Enhance Matlab model performance using vectorization, for multi-dimension million-scale Monte Carlo Simulations, reducing model run time by over 90%

Data Engineering Intern | Research Affiliates **Newport, CA | June 2018 – Sept 2018**
- Normalized unstructured data and built a data mapping in production framework between financial databases, Bloomberg and CRSP/Compustat to align ID mapping and fundamentals mapping for the last 30 years
- Back-testing resulted in a 95% match with the mapped fields on smart beta strategies

Senior Research Analyst | CRISIL, A Standard & Poor's Company **Pune, India | Mar 2016 – Aug 2017**
- Writing research reports focused on stock selection and sector recommendations by combining top-down macroeconomic research, quantitative screens along with the bottom-up industry-level fundamental analysis
- Designed and implemented data pipelines using SQL to extract and automatically refresh financials data for Earnings dashboards and build Tableau Dashboards to visualize indices/sectors trends

Data Analyst | ZS Associates **Pune, India | Apr 2014 – Feb 2016**
- Developed SQL queries and implemented in production from data ETL, mapping, cleaning, validation, mining to translate third-party external data system files from SQL servers into a proprietary software system for clients
- Designed a Tableau dashboard to draw business insights into the product performance over time and with its competitors
- Built a decision tree and random forest model to determine the key drivers leading to the market adoption of a pharmaceutical product and recommended changes in salesforce strategy

Key Projects

MASTER'S Machine Learning Capstone Project
- Yelp Dataset Challenge: Data cleaning, preprocessing and exploration to find the relevant factors influencing a business's rating using different machine learning multi-label classification algorithms

MASTER'S Applied Finance Project
- Developed a regime identification model based on ensemble machine learning method (combining c-mean fuzzy clustering, random forest, gradient boosting models) to manage the downside risk of a multi-asset fund
- Implemented portfolio allocation using hierarchical risk parity to get a superior performance versus Markowitz Optimization