Richie Subodh Sawant

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PROFESSIONAL EXPERIENCE

Mizuho Securities Americas | New York, NY **(Apr'22 –Mar'24)**
Validation Associate, Model Risk | Model Development, Model Risk Management, Model Validation, Automation

- **Developing Yield Curve Challenger Model after Performance Testing**
  - ➢ Led the design and implementation of challenger yield curve model using QuantLib for Pricing models for IRS, swaptions, and Caps/Floors after developing a yield curve for SOFR, and then using it for other curves in Python.
  - ➢ Conducted comparative analyses with vendor models, refining our approaches to align with market practices and regulatory standards which involved iterative refinements to ensure superior performance and alignment with current market practices.
  - ➢ Collaborated with cross-functional teams, ensured models met regulatory compliance for Validation purposes.
  - ➢ Worked on data gathering, PCA analysis and development of a PD, LGD, EAD, Credit VaR model in accordance with the Basel rules to calculate Economic Credit Capital
- **Validation of Derivative Pricing models and Regulatory models using SR11-7 and OCC 11-12 regulations**:
  - ➢ Models validated include the Pricing models that incorporated SABR Model for pricing Fixed Income and FX Derivatives like IRS, XCCY, Swaptions and Cap/Floors and BS Merton Model for Equity Derivatives like American Options, Regulatory models included ISDA SIMM, and XVA model in Murex.
  - ➢ Pioneered a comprehensive validation framework for multi-factor qualitative multi factor risk models such as KYC, OFAC etc. improving compliance testing processes and enhancing the model by identifying inaccuracies, thus markedly mitigating potential risks and compliance issues across banking operations.
  - ➢ Collaborated extensively with internal stakeholders including Model developers, vendors and senior management vendors to ensure the robustness of the model while seeking clarity of inconsistencies and flagging limitations.
  - ➢ Laid Framework for newly introduced Machine Learning based segmentation model to segregate unique risk attributes used for targeted alert generation involving decision tree, conceptual soundness, attribute analysis and limitations/drawbacks.
- **Automation and Process Improvement**:
  - ➢ Led pivotal automation projects that significantly reduced manual workflows by approximately 75 hours per model.
  - ➢ Integrated custom Python scripts with external vendor APIs to facilitate comprehensive sensitivity and stress testing on Fixed Income and Credit Derivative (FID and CD) Pricing Models and the ISDA-required SIMM
  - ➢ Standardized documentation processes using LaTeX for consistent reporting and leveraged GIT for version control, enhancing operational efficiency and audit.

Capgemini | New York, NY **(Jul'21 – Mar'22)**
Data Science Consultant, Financial Services | Data Science, Programming, SQL, Machine Learning, Time Series Analysis

- **SQL Query Development and Data Analytics, Data Source Enhancement:**
  - ➢ Developed SQL queries from scratch for efficient data extraction and analytics, ensuring accurate and actionable insights for forecasting prices /events by conducting time series analysis to support model development and automation in AWS.
  - ➢ Collaborated with bankers to automate data sourcing, significantly reducing manual efforts by 2 hours daily, and actively sought alternative and open public data sources to enhance data quality.

Tata AIG General Insurance Company | Mumbai, India **(Nov' 18 - Jun' 19)**
Data Science Intern, Business Intelligence | Data Science, Data Analysis, Business Intelligence, Data Visualization

- **Data Management Transformation and Efficiency Enhancement:**
  - ➢ Transformed the Business Intelligence team's data management by automating processing, mapping, visualization with R and R-Shiny. Boosted efficiency, converting a 6-hour manual data process into streamlined 10-minute app procedure.

EDUCATION

Indian Institute of Technology Bombay | Bachelor of Technology in Chemical Engineering **(Jul '14 - Aug '18)**
Ranked amongst the top 0.08% of the 1.4M students in the IIT-JEE Advance Entrance Exam.
Rutgers Business School | Master of Quantitative Finance **(Aug '19 - May '21)**
Relevant courses: Stochastic Calculus, Financial Time Series, Statistics & Machine Learning, Numerical Analysis,
Monroe College | Masters in Computer Science **(Apr '24 -Present)**
Relevant courses: Artificial Intelligence (AI), Object Oriented Software, Data Science, Cloud Computing

SKILLS & COMPETENCIES

Programming: Python, C#, C++, R, MATLAB, Java, Tableau, SQL, PowerShell, MUREX, QuantLib
Data Applications: Tableau, Advanced Statistics, Machine Learning, Tensorflow, Keras, NLP, SAS
Essential Skills for the role: AI and Machine Learning models, AWS, Knowledge of Trading
Certifications: CFA Level I Passed, Actuarial Exams [CT1- CT9], Bloomberg Market Concepts with Portfolio Management
Coding competencies: World-Quant University: Applied Data Science I & II: Scientific Computing in Python (Honors), Hackerank.com: Problem Solving, 5 Star Gold, Coursera: NLP Specialization in Python, Cloud Computing in Python

PROFESSIONAL PROJECTS

Portfolio Management Platform App (Project under ETFication.com) | New York, NY **(Jun' 20 - Aug' 20)**

- Enhanced and added documentation of the core algorithm of the portfolio management platform for ETFication's Robo-Advisory Service resulting in a 1 min process into a 15 sec process.

Creating an App with ESG Data (Project under Quantistix LLC) | New York, NY **(Dec '20 – Apr' 21)**

- Fine-Tuned a Google AI's BERT model using Pytorch using ESG Data to perform Sentiment Analysis of scraped ESG Data to predict the "ESG Rating" of the company to aid in Trading based on NLP Data. Responsible for both front end and back end.
- Created a basic model of a Flask App that also performs Named Entity Recognition of the Scraped data using spacy.