


ANKIT AGARWAL

Quantitative Modeling ~ Machine Learning


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SUMMARY

Experienced professional with 4 years of experience in Quantitative modeling, emphasizing data analysis, visualization, and machine learning. Proficient in data management/scrapping tools such as SQL/Beautiful Soup, enabling me to execute complete models.

SKILLS

Languages: SQL, Python, HTML, CSS, R, C++, PySpark

Platform: Spark, Tableau, Flask, Alteryx, Bloomberg

Modelling: ANN, KMeans, SVM, GLM, Ensembling

Academics: Statistics, Time series, Vector Econometrics

EXPERIENCE

Nov/2022 –
Current

Associate, Treasury Risk Management

Nomura

- Leveraged Hadoop database via Tableau, accessed Nomura's internal database using **SQL**, and **Bloomberg** database (both directly and through the Excel add-in) to extract data.
- Employed Tableau for in-depth data analysis, assessing **model performance** at an aggregate level. Conducted **stress testing** on the Treasury's bond portfolio using Nomura's market system Totoro.
- Developed a **graphical user interface** (GUI) software enabling users to effortlessly create reports. The interface offers customizable options, including automatic section completion with predefined statements, or reuse of previously employed statements, or the ability to craft new statements.

Jul/2020 –
Nov/2022

Liquidity Risk Management

Credit Suisse

- Assessed the relevance of assumptions and their alignment with the Credit Suisse portfolio.
- On the quantitative front, conducted rigorous testing for **regression models**, ensuring **normality**, **independence**, and homoscedasticity of residuals, as well as inspecting multicollinearity among independent variables and model linearity.
- Employed **RStudio** to filter a credit risk dataset comprising over 1.6 million rows & 130 columns. The refined dataset was used in evaluating the Probability of Default model for the sovereign client's portfolio.

May/2018 –
Jul/2018

Data scientist

Ziploan

- Utilized **feature engineering** techniques to extract novel attributes from the available SMS data and a/c statements. These features were used to develop the **Probability of default** model.
- Developed an **NLP model** designed to parse and categorize bank statements. This approach involved employing a **Artificial Neural Network** architecture with a **softmax activation** function in the output layer to effectively classify bank statements into categories such as monthly transactions, credit/debit entries, cheque/EMI bounces, deposits, and more.

PROJECTS

Feature
Engineering

Credit Risk Modelling

Github Link

Probability of default of customers was calculated using their bank data. **Weight of Evidence** of features was used to create new features by coarse classification. **Logistic regression** was used to train the model.

Web
Development

Blogging Website

Github Link

Developed a Python-based blog website using Flask, HTML/CSS, and SQLite. Admin capabilities include posting, editing, and deleting blogs. External users can register to view blogs, and post comments. Implemented secure storage of blogs/user data in a local SQL database with hashed passwords.

Tableau
Dashboard

Dashboard for sales and profit of a company

Tableau Link

Created a Tableau dashboard showcasing **Key performance indicators** of a retail business. The dashboard has dynamic filters that allow the user to choose to customize the dashboard.

Web
Scrapping

Data entry automation

Github Link

Created a web scraper using **Beautiful Soup** to extract relevant information such as Price, address, and link, from a flat listing website. This data is then entered into an Excel sheet using Selenium web driver.

Financial
modelling

Ranking of Indian Mutual fund houses

Drive Link

Developed a gold-winning analytical framework to rank Mutual Fund Houses. Applied **Vector Auto Regression** (VAR) for quantifying responsiveness of the fund houses against macroeconomic shocks.

EDUCATION

Jun/2015 –
Jun/2020

Integrated Msc (BSc + MSc) in Economics

IIT Kharagpur

GPA: 8.40; Minor in **Mathematics in computing**; JEE Advance AIR-3600

Jun/2022

Chartered Financial Risk Management

GARP

Excellent percentile in all risk sections (including **Credit Risk** and Market Risk) in both part-I and part-II

ACTIVITIES

Lawn Tennis

Water Polo-Gold Medal

Data analytics - team Captain

Mentor - Student welfare