RUDRAKSH AGRAWAL

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BTech, Production and Industrial Engineering, IIT Roorkee
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EDUCATION

Indian Institute Of Technology (IIT) Roorkee *Apr 2016 - Apr 2020*
Bachelor of Technology (B.Tech) , GPA : 8.186

St. Mary's Convent Senior Secondary School *Apr 2014 - Apr 2016*
High School , CBSE , GPA : 8.8

Cleared CFA (Chartered Financial Analyst) Level 1

Cleared FRM (Financial Risk Management) Level 1

TECHNICAL SKILLS

Programming: Python , C++ , HTML , Javascript, Pyspark , SQL , R , Tensorflow , Keras
Software & Tools: Excel , PowerBI , Tableau

WORK EXPERIENCE

Credit Risk Model Development

Coforge Solutions (Client - Standard Chartered Bank) *August 2022 - July 2023*

1) IRB PD model development - Extra-Large Corporate portfolio
I was involved in end-to-end development of IRB PD model on Extra Large Corporate (ELC) portfolio which contains clients having annual sales turnover greater than 10 bn dollars.The PD model allows the bank to fulfil its regulatory obligations to hold and report regulatory capital in accordance with its IRB permission.It also allows SCB to make adequate business decisions on origination,underwriting and pricing deals relative to the risk of clients in the portfolio.

2) IFRS9 PD model development - Commodity Corporate portfolio
I was involved in end-to-end development of IFRS9 PD model for the Commodity Corporate (CC) portfolio. The CC PD model is developed for use in the IFRS9 ECL calculation process. The model produces unbiased forward-looking and cycle-conditioned PD estimates over different horizons , and it takes as inputs the corresponding CC IRB credit grades and macroeconomic variables.

Quantitative Analytics Specialist

Wells Fargo Bank *August 2020 - July 2022*

1) Model Explainability Framework
Created an end to end model explainability framework that would help explain any blackbox machine learning model .The framework uses various metrics like SHAP Values , LIME values , PDP plots , Surrogate Decision Trees etc. to explain models .The visualizations in the output dashboard of this framework assisted stakeholders in understanding the predictions .

2) BidTape Optimization
Mandatory trade desk within consumer lending performs trading (buy) of 3rd party originated mortgages . Consumer lending team already had an existing model which could intake the loan , borrower, client and pricing component features and compute an "All in Price" to bid for a specific loan .I was asked for optimizing these bid prices further and find opportunities to reduce/increase this "All in Price" to either increase the win rate or improve the margins . We were able to increase the margins by 5 percent with a very slight decrease in win rate .

3) NLP data drift monitoring framework
I developed a generic end to end framework which was used to monitor data drift in text data particulary for NLP use cases . I developed certain metrics which were used in the framework to track the drift in text data . The framework is deployed in production and is used to monitor data drift for NLP usecases .

Machine Learning Internship, Quantiphi Analytics Mumbai *May 2019 - Jul 2019*

1) Optical Character Recognition
The aim of the project was to build a end to end pipeline for detection and recognition of text from printed as well as handwritten documents and finally extract it in a structured manner .Our scope was more defined for document type like cheques and document containing tables. We evaluated our model on IAM handwritten dataset and got a Word Error Rate (WER) of 15.48 which was close to the WER (11.49) of Google Vision Api. We also got an Intersection Over Union (IOU) of 0.75 on the ICDAR-2013 Natural image dataset .

Internship , IIM Udaipur *May 2018 - July 2018*

1) Dynamics Of Limit Order Book
From the order and trade data of 1500 different stocks we reverse engineered the trade data to find out the algorithm used by NSE to trade stocks . By using this algorithm we created limit order books at different timestamps. With the help of graphs we analyzed the limit order book at different timestamps .

PROJECTS

Customized Handwriting bot , ARIES IITR *Nov 2017 - Mar 2018*

- The aim of the project was to make a bot that can recognize the handwriting of a person and write it in any other persons handwriting .
- With the help of Deep Learning algorithms the bot recognized the written text and then the text was written on a sheet using CNC shield.
- Presented the project in Srishti 2018 and won 3rd prize for the same.

Why Wait , Microsoft code.fun.do *Feb 2017 - Mar 2017*

- Made a website that can ease the ordering system of any institute canteen .
- We incorporated a ML algorithm which predicted the expected time to prepare an order based on active orders..
- Technologies used : Python , Html ,Css, Javascript , Bootstrap

ACHIEVEMENTS

- Achieved an All India Rank 4295 in JEE Advanced 2016.
- Cleared CFA (Chartered Financial Analyst) Level 1.
- Cleared FRM (Financial Risk Management) Level 1 .
- Won multiple Inter-Bhawan Football tournaments .

REFRENCES

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