AYUSH AGRAWAL

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EDUCATION

Indian Institute of Technology, Kharagpur   *2015-2020*
Integrated MSc in Economics (major) and Mathematics & Computing (minor) | CGPA: 8.13/10

WORK EXPERIENCE

ANZ Bank | Bengaluru (Modelling Analyst)   *Aug'20 - Present*
Dashboard Development for Modelling Automation using R Shiny Web Applications
- Created a tool using **R** & **Shiny** that enables modellers to create, visualize & validate data segments for efficient modelling
- Built an ML module employing **lightGBM** & **Random Forest** to create challenger models and compute variable importance
- **Reduced** modelling timelines by an average of **1.5 months** by consistently improving the tool and providing customizations
- Recognized with **'Exceptional Performance Award'** within 6 months of joining ANZ for the above mentioned contributions

PD Model Tactical Remediation – Australia Credit Card Portfolio
- Analysed, identified and fixed the issues in PD component of regulatory capital model for Australia Credit Cards Portfolio
- Deeply analysed the Exception-pool segment of data to fix the calibration issues and **reduced** the **RWA** estimates by **2%**
- Created SAS macros to measure stability (PSI), granularity(HHI), calibration(MAPE & PE) & performance(Gini) of the model

Application Scorecard Development – New Zealand Credit Card Portfolio
- Extracted and dived deep into data to identify & analyse various data issues and generated data quality reports
- Collaborated with multiple teams to understand the data flow and prepare the data for feature engineering phase

INTERNSHIPS & PROJECTS

ANZ Bank | Bengaluru (Received pre-placement offer)   *May'19-Jul'19*
Optimise and Visually Enhance the Credit Scorecard Development Process using R Shiny web Applications
- Personalised and implemented the **K-means** clustering technique on variables for optimising feature reduction process
- Devised a function using **Conditional Inference Trees, MAPA** and **Chi-Merge** algorithm for **coarse classing** of variables
- Reduced the execution time by over **25%** by integrating **parallel processing** to various steps of scorecard development

Avail Finance | Bengaluru (Received pre-placement offer)   *Dec'18-Jan'19*
Automate Loan SMS Classification Process to Create Features for Credit Scoring Model
- Cleaned the dataset by removing redundant observations comprising approx 96% using **RegEx** and **SequenceMatcher**
- Experimented text sms classification using **K-means** clustering with features created using **TF-IDF** vector and **POS** tagging
- Analyzed clusters and trained **XGBoost** & **Random Forest** models to further classify texts from heterogenous clusters
- Updated regex to improve the classification accuracy to **91%** and with **F1-score** above **0.9** for each loan sms category

Master's project | IIT Kharagpur   *Aug'19-Jun'20*
The Nexus among NPAs, Operational Efficiency and Capitalization
- Examined the relationship among NPAs, operational efficiency and capitalization of Indian public & private sector banks
- The panel data was tested for **heteroskedasticity** and serial **correlation** using **Breusch-Pagan** test and **Breusch-Godfrey** test
- Adopted **FGLS** technique to test the bad management, skimping, bad luck and moral hazard hypotheses

TECHNICAL SKILLS

Languages & Tools: Python, R, Shiny, SAS, SQL, C++, Excel
Familiar Libraries: Numpy, Scipy, Pandas, Scikit-learn, XGBoost, NLTK, Matplotlib, Seaborn

COURSEWORK INFORMATION

Regression & Time Series Models | Probability & Statistics | Econometric Analysis (I & II) | Programming & Data Structures

EXTRA CURRICULAR

President | ShARE IIT Kharagpur   *Jul'18 - Jun'19*
- Led a team of 30+ members working across 5+ networks, conducted workshops on case studies, economics and finance
- Organized a national level case study competition in association with NAROES, IIT Kharagpur witnessing 100+ participants
- Strategized the growth of ShARE, being part of the executive team working with **32** other chapters in **15 countries**

Captain | Hall Case Study Team   *Jul'18 - Jun'19*
- Conducted weekly Case Study practice sessions for members teaching them approaches to solve business problems
- Led the team to participate in Open IIT Case Study'17 after a gap of 2 years and secured 3rd position among 15 teams