



CodeShastra 5.0, Round 1

February 28, 2019

Problem statements

1. Pattern Detection for Insurance Fraud

- Insurance fraud is a phenomenon occurring within every stage of the insurance lifecycle: At policy subscription, giving fake identity data and fraudulent objects are among the many strategies that we see applied today. But also the stages of claims declaration (overclaiming, fake identities) and payout processing (identity theft, interception of payments) are not without threat.
- Notwithstanding today's technological advances, capabilities to detect such fraud attempts remain vastly unexploited. The ways in which we gather, use and share relevant data within and across industries remains a key obstacle for fraud detection strategies to reach their full potential. Every form of fraud detection is different and may require a specific solution.
- The solution should provide additional intelligence within large structured and unstructured data to automatically flag suspicious claim declarations, detect fraudulent claims using pattern detection, enrich fraud detection using open source datasets. Your solution may also exploit unstructured data (like claims descriptions, voice to text from calls, etc)
- Your solution must be applicable in at least one of these insurance domains: Car Insurance, Home Insurance (theft, fire, natural disasters...), Labour/Liability Insurance/Guaranteed Income, Life/Health Insurance.

2. Your Personal Investment Manager

- Investment Management is another key trend in FinTech, which involves the buying and selling investments within a portfolio. Banking, budgeting, taxes and portfolio management can come under Investment Banking.
- The developers can exploit this field and develop a product which should fulfill following requirements:
 1. Maintain portfolios of individual customers
 2. Suggest them stocks and other investment options which are best for them.
 3. Use predictive algorithms and consider various factors influencing price of stocks and accordingly shortlist the best stocks he should invest in.
 4. Indicate the right time to sell the stocks, thus maximising his profit.
- Bonus features:
 1. Can include other investment options other than stocks which are expected to return high gains.
 2. Can exploit trends of global market and predict the upcoming trends in local market, thus making your model robust to capricious global market.

3. Crowdsourcing for Women Empowerment Projects

- While there are a large number of individuals and organizations working for the cause of women's empowerment, many struggle to find support in terms of finance as well as the right kind of human resources. On the other hand, there are also many individuals and companies that are willing to provide their time and support to these causes/projects. A platform which connects these two sets of people can encourage many initiatives for gender equality, which would otherwise not be able to get off the ground. An online platform may be developed to facilitate this interaction, while maintaining a level of security for the users.
- General problem statement:
 1. At present, there are many private platforms help connect projects to financial and human resources but there is no platform catering to both profit and non-profit ventures specifically for women empowerment.
 2. There is also no platform which allows exchange of skills as well finances in one place
 3. A government run C2C crowd-sourcing platform will fill this gap and allow individuals and organizations looking for funding and other support to connect with others who can provide this support to them.
- Desired Outcome:
 1. Platform to connect the individuals or organizations that are seeking support and the one who are offering support.
 2. Administrators to verify and monitor transaction of funds and services Technology that can address this issue partially.
 3. An online portal which allows registration of users through automated KYC verification followed by a level of offline verification by a team.
 4. The creative use of technology should be explored to create the best possible protection against fraud, fake identities, money laundering etc.
 5. The portal should have the option of a payment gateway so people may choose to pay directly.
 6. The system should create profiles for different types of users while also allowing both public and private interactions between them.

4. Financial Assistance Chatbot

- Education in India (and around the world) can be an expensive affair. Bank loans form a big part of relieving the burden from student's shoulders. However, information regarding the loans is many a times buried deep in the websites of these banks and students have to find a way to navigate through millions (number may be slightly exaggerated) of links.
- In an effort to make this whole experience more natural and intuitive, Let's build a chat bot that can understand student queries and give suggestions about loans, investing money in different assets, SIP's, MF's, Stock details etc.
- Details:
 - 1.Focus should be on the answering questions and making the conversation as natural as possible.
 - 2.Bot should be able to fetch user data (for example account balance) from a database/API to make the experience more personal.
 - 3.If the bot can't answer the user's query, it should be able to forward this to a live agent (not mandatory).
 - 4.Bot should be deployed via a web interface (not mandatory).

5. Manage your expenses

- In today's world where all the money is digital, there is hardly any track of expenses done by any individual or family. We would like you to design an app, which helps the individual, and family in tracking the day-to-day expenses made.
- The expenses captured via app should be able to provide detail insights on investment, budgeting and saving. It should provide guidance in terms of investment if saving is above 30% and if the saving are between 0 to 10%, it should design the budget for individual, which helps in increasing the savings on yearly basis. It should apply the 50-30-20 rule limiting needed expense to 50%, and "WANT" expenses to 30% and savings to 20%. The user should have the option to change to any other percentage also with the minimum savings percent as 15.
- It should inherit chatbot facility for providing push notifications and solving user queries on investment budgeting etc. App should provide various notifications with respect to end date of billings for all household bills.
- It should provide analytics on finance expense done over the year and detailed analysis of yearly expenses. The app should have the capability of incorporating complete family details and expenses.