TECHFEST 2022-23
FLEET RISK BUSINESS INSIGHT

Kitkat Inc is in the insurance broking and risk management industry. They help clients quantify and manage risk in fleet telematics and help them unlock new opportunities for growth. Thereby improving their quality of services to their customers. The company's enterprise telematics team partners with fleet telematics companies to acquire fleet data so as to analyze and protect their risk.

BUSINESS PROCESS

The company first communicates with a new or potential fleet customer (Ex: A courier company). Then it gets the approval to collect the customer's telematics data from the telematics device service provider (Ex: GeoTab, Netrodyne, edrive etc). Once we collect the telematics data of vehicles and claims data from the insurance company, we need to create an ML model to predict the risk of the fleet operations company (A courier company). This ML model, we will help the insurance advisors to calculate the risk and get the best quote for the customer.

TASK

participants are supposed to collect open source or generate telematics data or vehicle trips and claims data for the same fleet company. Use the data to create an ML model using the federated learning technologies to effectively calculate the risk score of the below scenarios.

1. Risk score of the given driver
2. Risk score of the given vehicle
3. Risk score of the given route
4. Risk score of the given fleet telematics company comparison with other customers

PROBLEM STATEMENT

This problem statement has two parts.

ML with Federated Learning – Participants are supposed to develop a FL-based machine learning model to calculate the risk score of the given telematics company. Participants can use open-source data sets of trips, insurance claims and accident data sets. The prediction model should be built using FL technologies if possible.

Application Side – A dashboard should be built to show the risk of the different telematics companies. Risk score of the driver, vehicle, and route of the trips. Also, using the dashboard we should be able to compare the risk scores of different fleet companies.
Like this (https://www.openriskmanagement.com/federated-credit-risk-models/) but for fleet telematics.

STRUCTURE

Round 1: Abstract submission

The abstract should contain

1. Data used for the implementation, any logical ml algorithms using to calculate the risk
   a score of driver, vehicle, and routes.
2. Front end/Dashboard mockups, - A portal with nice dashboard which should be showing the various risk metrics of the fleet company and benchmarking with other companies
3. Technology stack - Technologies that you will be using in building this application. Stack can include AI/ML, Federated Learning, frontend, backend, connectors and any others you need to build this application.
4. Process flow/blueprint: Depiction of the overall process and tools and technology you will be using to build this application.
   Participants are supposed to submit this in pdf format with their 'Team_ID' as name to
   fleetrbi@techfest.org

Round 2: Final demonstration
Selected participants will be provided with data required to get insights. They have to demonstrate the model with visuals on a Live video call in front of a panel of judges.
Evaluation Criteria:
1. Flexibility of solution for scalability – 20%
2. POC demonstration – 60%
3. Modular solution with stated tools – 20%

ELIGIBILITY

Individuals or teams from the following categories are allowed:
1. Students/research scholars of authorized institutions (students have to show their Valid College/School ID)
2. Upto 3 years old college pass-outs.
A team is allowed to have a maximum of 4 members..

REGISTRATION AND SUBMISSION

The Participants have to register on the official Techfest Website and fill all the necessary details. www.techfest.org -> Competitions -> Fleet Risk Business Insight -> Explore More -> Register -> Fill all your details - > Now you must create/Join a team

Participants are supposed to submit an abstract in with team_ID as the name of pdf format to fleetrbi@techfest.org The final submissions have to be in the form of website link, and output in the form of categorized emails to fleetrbi@techfest.org

TIMELINE

Last date for registration	30th October, 2022
Last date for submission of Stage 1	30th October, 2022
Shortlisting of teams for Stage 2	7th November, 2022
Last date for submission of Stage 2	27th November, 2022
Shortlisting of teams for Stage 3	1st December, 2022
Final round - Stage 3 competition	16th-18th December, 2022

GENERAL RULES

1. Every team has to register online on our website for the competition. A Team ID will be allocated to the team on registration which shall be used for future references.
2. A team can register at any point of time before 10th November 2022 and submit the final abstract and video (as mentioned in the structure).
3. The decision of the organizers or judges shall be treated as final and binding on all. Techfest has all the rights to verify the identity and accuracy of the details provided by the participants.
4. No responsibility will be held by Techfest, IIT Bombay for any late, lost or misdirected entries.
5. The idea presented by the teams should be original (not protected by means of patent/copyright/technical publication by anyone else).
6. Note that at any point of time the latest information will be that which is on the website. However, registered participants will be informed through mail about any changes on the website.
7. All modes of official communication will be through the Techfest e-mail.

CERTIFICATE POLICY

Only those teams that are shortlisted for the finals and also give a final presentation about their work during Techfest 2022-23 would be awarded an e-Certificate of Participation. The top 5 entries from this event would be provided with a Certificate of Excellence.

PRIZES

The prize money will be awarded to top x winners via NEFT and will be processed within 30 working days after receiving the prize money from sponsors. Winners have to mail the following information (immediately after the announcement of results) to abhishek@techfest.org

FORMAT OF MAIL :
Subject: Fleet Risk Business Insight, Team_ID - Position - (example- Fleet Risk Business Insight, FR191003 - 3 rd Position)
Body of mail:
1. Account Holder's Name
2. Account Number
3. Bank name and Branch name.
4. IFSC Code
5. Photograph of Bank Passbook as a proof