Terrorism Analysis and Finding Insights

(Project Internship Season - 3)

Through experiential learning Forsk educates, mentors train the next generation of Data Scientists and practitioners. Best way to learn is by doing.

Similar to our micro learning concept based short courses (FREE SEASON and PRIME SEASON). We are launching **PROJECT SEASON 3**

To work on **Client Project Opportunities** with Forsk acting as a **Project Guide** and **PMC** (Project Management Consultant) to make sure that everyone completes the Project in given time.

Learners with an interest in Data Analytics, Finding insights from data and performing visualizations can join this project season.

Dev. Office: Forsk Technologies Private Limited, M-5, Software Building, IT Park, Industrial Area EPIP, Sitapura, Jaipur-22
Regd. Office: A5 B, Prem Nagar II, Model Town, Malviya Nagar, Jaipur – 302017
Phone: +91 9414291932, Web: www.forsk.in, Email: forsklabs@gmail.com

Course Type		Project Season 3
Duration		4 Week (3 Week of Development Life Cycle and 1 Week of Documentation) *Project scope/timelines might be extended as per the client's requirements.
Registration Fee		There is **NO** Registration Fee
Internship Letter (30 days) and Project Presentation Fee		1000 INR after discount (Original fee 5000 INR). * You can upgrade to this opportunity any time during the project season.
Domain		Exploratory Data Analysis (EDA) - Python and Dash
Project Guides		Dr. Sylvester Fernandes Mr. Yogendra Singh and along with TAs from Forsk
Client Name		Senior Army Officer, Govt. of India continued from previous seasons with new requirements
Project Title		Terrorism Analysis and Finding Insights
Description		Designing a Dashboard for Analysis and Forecasting
Dataset		Global Terrorism Database (1.9L Records)
https://drive.google.com/drive/folders/1YkqXXx8Xmy8lMMQNfYJiLRTq5EpWvR_E?usp=sharing		
Database Name		globalterrorismdb_0919dist.xlsx (80 MB Excel File) global_terror.csv (31 MB with reduced columns)
Registration Link		https://bit.ly/forskproject3
DO NOT EXPECT		Forsk team will teach you required skills, project management fundamentals, template code and technical assistance.

		Please do not expect that the Forsk team will do everything for you, you also need to put your skin to finish the project.
Time Requirements		2 hours daily and more than 4 hours on weekend

Program Features :

1. All Registered participants would receive the documents for Problem Statement, Solution Approach, Wireframe and Code Snippets.
2. There would be FREE Project related Concepts Teachings.
3. Forsk would play 2 Roles PMC (Project Management Consultant) and PG (Project Guide).
4. Those who pay the Fee: Part - Time Internship letter (30 days) would be issued after successful completion/submission of the Project.
5. NDA (Non Disclosure Agreement) needs to be signed between participants and Forsk.
6. Final Source Code needs to be submitted via Github link.
7. Those candidates who are not serious and not taking part actively would be removed from the Project Season.

Project Success Criterias :

1. Code Commenting
2. Exception Handling
3. Logging
4. Variable Naming Convention
5. User Experience (UX)
6. User Interface (UI)
7. Meet Clients Expectation
8. Code Modularity

Prerequisites:

1. Python Fundamentals
2. Pandas / Numpy Fundamentals
3. HTML and CSS Basics

Client Details :

1. Client is a senior Army Officer, Govt. Of India.
2. He is responsible for the Internal Security in the Northern Command.
3. He is also responsible to Counter Terrorism in the entire State of J&K.
4. He is awarded by the President of India, the *Kirti Chakra* an Indian military decoration awarded for valour, courageous action or self-sacrifice away from the field of battle.
5. It is the peacetime equivalent of the Maha Vir *Chakra.*

Client Expectation :

Since the client is responsible for Internal Security in the State of J&K. He needs this tool to be used as a Predictive Analysis tool. He should be able find the trendline of each kind of Attack (Bombing, Assasination etc).

Protective vehicles are less in numbers with the Army and are distributed uniformly across the area. Similarly Explosive Detection Dogs (ED Dogs) are only less in the entire country. Your tool will help in finding the concentration of Attack type - Bombing in the area which would help in allocation of the resources.

Visualizing the data gives clear patterns about the data and makes it easy for analysis

1. We should be able to run the Python script from the command line and it should open a Web Page in the browser with a Descent and Usable Interface.

2. User should have an option on the Web Page to close the opened browser after his work is complete, it should also close/kill the script running in the background.

3. UI should have a **Map tool** (Interactive Visualisation) to generate a **Scatter Geo Map** with markers for highlighting the lat/long where the incident happened based on combinations of Month, Day, Attack Type, Region, Country, State and City. User should be able to select any DAY and MONTH and based on that DAY and MONTH we need to show what incidents happened on that DAY and MONTH (maybe in any year). We need to create a single visualization of every combination possible and it should get updated accordingly.
4. Client should be able to filter the 9 Type of Attacks (Bombing, Assassination, Kidnapping etc)
5. Client should be able to filter the Region, Country, State, City.
6. Hovering and Clicking of the mouse should have information.
7. Separate for World and India
8. Option to have animation to Play and Pause for the Years and also should be able to filter data based on year range slider.

9. UI should have a **Chart tool** (Interactive Visualisation) to show **Stacked Line Chart** images of the frequency of terrorist incidents each year.
10. Client should be able to Group first by (Country Attacked, Region, Target Nationality, Target Type, Type of Attack, Weapon Type, Terrorist Organisation)
11. Client should be able to search based on the selected Group
12. Client should be able to Filter data based on the Year
13. Client should be able to see the detailing in a visualisation.
14. Follow Rule (overview first, zoom and filter, details on demand)
15. When a user's mouse hovers over a stripe we should show details
16. Separate for World and India
17. Option to have animation to Play and Pause for the Years and also should be able to filter data based on year range slider.

Publish an Article titled **"Visualizing Time Series Data"** on a medium blogging site.

Structure of the Article can be

1. Introduction
2. Related Work
3. Your Work
4. Implementation
5. Results
6. Software Improvements
7. Conclusion and Future Work
8. Acknowledgements
9. References
10. Your Biography

Forsk Medium Publication: https://medium.com/forsk-labs