

<HACK&CHALL>

[Go To Canva](#)



Google Developers Student Club
ADGIPS

Welcome - to
Tatkal - Apat

Harnessing Technology for Disaster Management



TATKAL-APAT



KRISH JALWAL
(USAR)
(BACKEND)



KRISH CHAUHAN (IIMT)
(FRONTEND &
BACKEND)



Project Overview:

Tatkal - Apat is not just a website; it's a lifeline for those in distress during times of crisis. Our platform is designed to swiftly respond to provide quick emergency services and track individuals in need along with mobilize aid effectively. Through strategic partnerships with NGOs, we ensure that donations reach those who need them most.

01

Advance Machine Learning Modelling Predictions for upcoming Earthquake.

02

OpenCV User's Authentication to avoid Fake and Fun Use.

03

Live Location Detection to help with Immediate SOS mechanism and Donation purposes.



NEED HELP

First Phase of this project targets the immediate emergency services , where one can have all in one emergency services together and interactive chatbot services with SOS featuring.

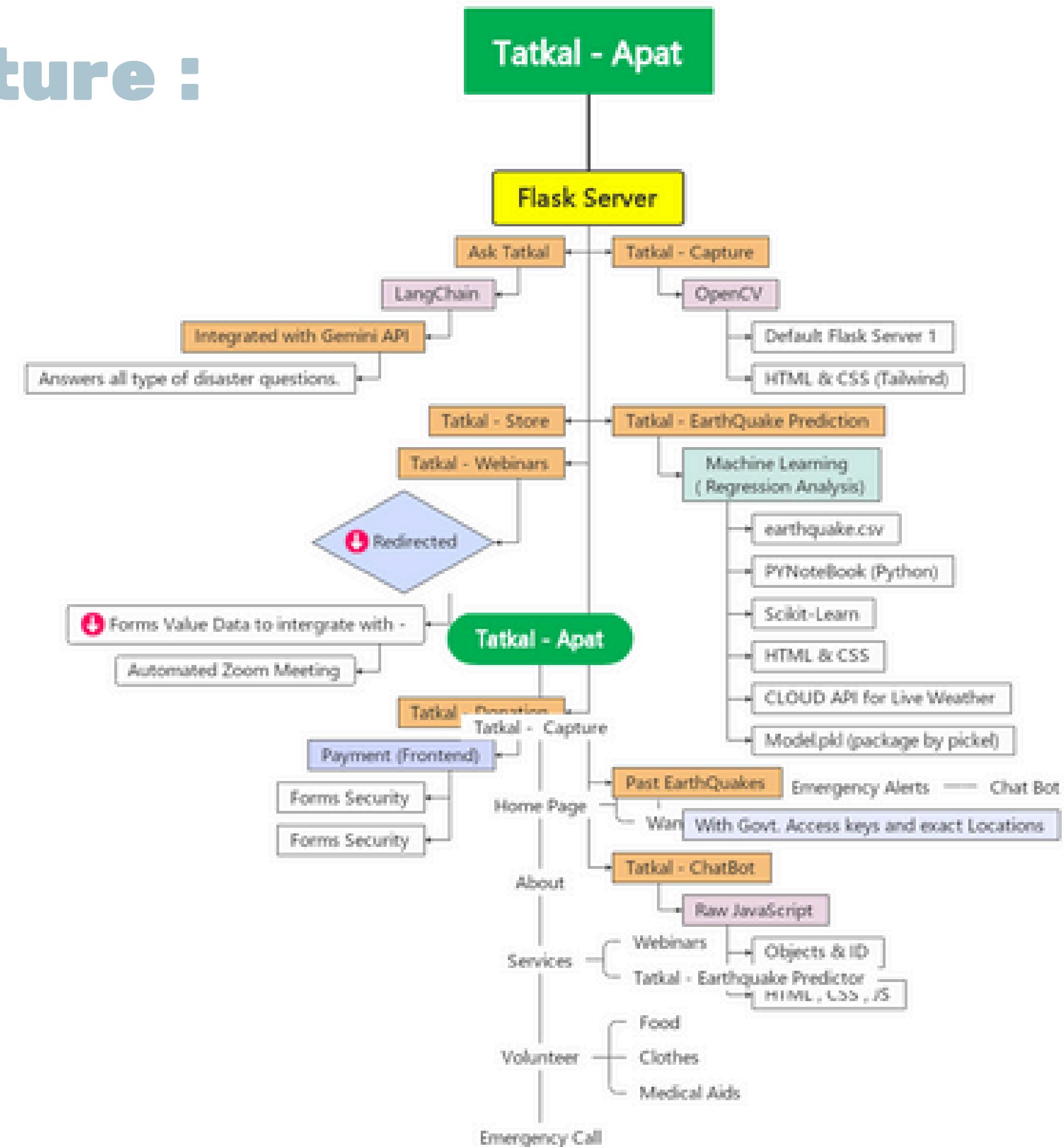


WANT TO HELP

Second Phase of this project is targeted for people suffering from these natural disasters and calamities. Where programs like Volunteering , Donation and Webinars are being conducted.

Architecture :

Q



Immediate Action Mechanism:

In times of crisis, every second counts. That's why Tatkal - Apat is equipped with cutting-edge technology to provide immediate assistance. By leveraging live coordinates and chatbot capabilities, we can rapidly deploy aid where it's needed most. Our all-in-one emergency call services and mapping facilities ensure a seamless response to emergencies.



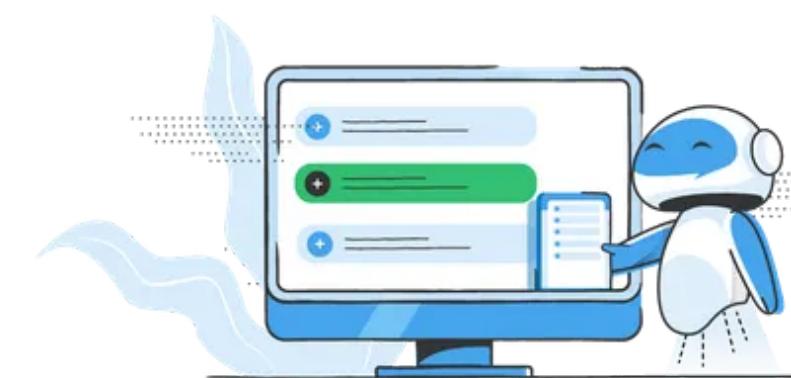
Live Location Detection to alert nearby authorities locally.



All - In - One Emergency Contacts.
With SOS Mechanism with immediate alerts.



Interactive ChatBot to help you choose the right way to deal with the situation and quick services to choose



Number of recorded natural disaster events, 1900 to 2023

The number of global reported natural disaster events in any given year. Note that this largely reflects increases in data reporting, and should not be used to assess the total number of events.



Data source: EM-DAT, CRED / UCLouvain (2023)

Note: Data includes disasters recorded up to September 2023.

OurWorldInData.org/natural-disasters | CO

Authentication: (Using OpenCV Computer Vision)



01 Authentication through Tatkal-Camera:



- **Live Facial Imaging:** Tatkal-Apat utilizes the Tatkal-Camera feature to capture real-time facial images of users when try to use our web services and will be recorded into our database for security purposes.
- **Timestamps and Coordinates:** We are trying each facial image is stamped with timestamps and coordinates, providing a robust mechanism for verifying the authenticity of distress calls.



02 Prevention of Misuse and Accountability:

- **Preventing Platform Misuse:** The integration of Tatkal-Camera prevents potential misuse of the platform by ensuring that distress calls and emergency originate from genuine users.
- **Accountability in Aid Distribution:** By associating facial images with this project, Tatkal-Apat establishes accountability in aid distribution, ensuring resources reach legitimate individuals in need.

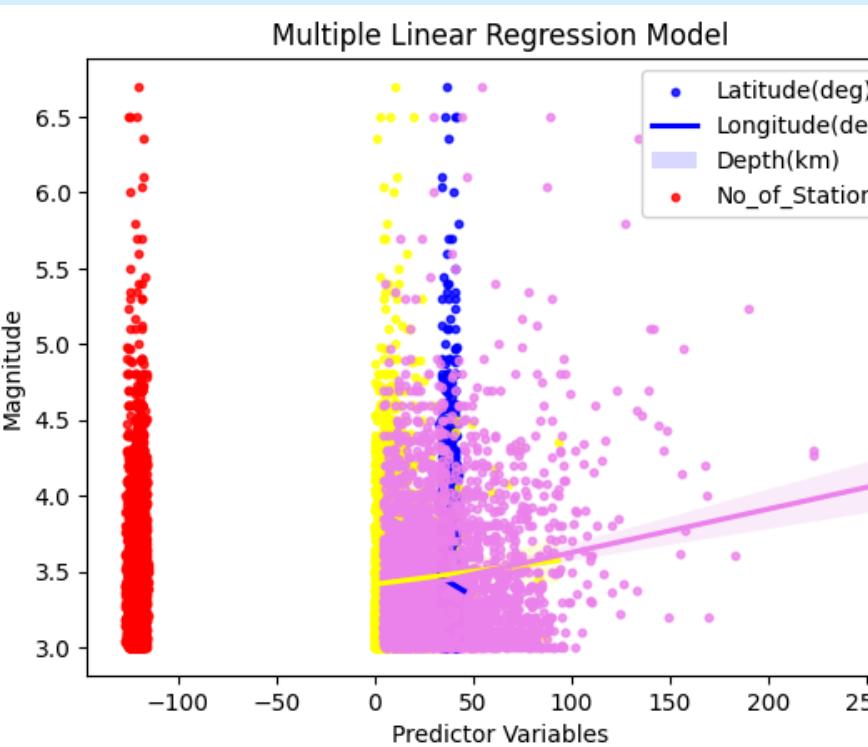
Predictive Analysis:

Advanced Machine Learning Model

- **High Accuracy:** Achieved an impressive 95.6% accuracy in Next Earthquake prediction.
- **Utilizing Regression Modeling:** Employing advanced Regression techniques to analyze data.

Impact Mitigation

- **Reducing Disaster Impact:** Mitigating the impact of disasters by taking preventive actions.
- **Enhancing Preparedness:** Facilitating preparedness through timely and accurate predictions.



Input : Latitude , Longitude and Depth **Output :** Magnitude Scale (apprx. 3-7)

Proactive Disaster Mitigation

- **Anticipating Disasters:** Enabling early detection and anticipation of potential disasters.
- **Empowering Users:** Providing accessible predictive data to empower users to take proactive measures.

File Edit View Insert Runtime Tools Help Last edited on March 31

+ Code + Text

import pickle

Dump the linear regression model to a file named 'model.pkl'
with open('model.pkl', 'wb') as file:
 pickle.dump(linear, file)

<ipython-input-2-cfc03adb3243>:17: FutureWarning: The error_bad_lines argument has been deprecated and will

veri=pd.read_csv('earthquake.csv', encoding='utf-8', engine='python', sep=',', error_bad_lines=False)

	date	time	lat	long	depth	xm
0	2003.05.20	0:17:44	39.04	40.38	10.0	4.1
1	2007.08.01	0:03:08	40.79	30.09	5.2	4.0
2	1978.05.07	0:41:37	38.58	27.61	0.0	3.7
3	1997.03.22	0:31:45	39.47	36.44	10.0	3.5
4	2000.04.02	0:57:38	40.80	30.24	7.0	4.3
5	2005.01.21	0:04:03	37.11	27.75	32.8	3.5
6	2012.06.24	0:07:22	38.75	43.61	9.4	4.5
7	1987.12.31	0:49:54	39.43	27.98	26.0	3.8
8	2000.02.07	0:11:45	40.05	34.07	1.0	3.8
9	2011.10.28	0:47:56	38.76	43.54	3.1	4.3

lat long depth xm

0 39.04 40.38 10.0 4.1
1 40.79 30.09 5.2 4.0
2 38.58 27.61 0.0 3.7
3 39.47 36.44 10.0 3.5
4 40.80 30.24 7.0 4.3
5 37.11 27.75 32.8 3.5
6 38.75 43.61 9.4 4.5
7 39.43 27.98 26.0 3.8
8 40.05 34.07 1.0 3.8
9 38.76 43.54 3.1 4.3
0.09562603089277644
0.10377022877473518
coefficients:
[0.01261989 0.0073032 0.0080358]
intercepts:
3.2067500382814664
[4.58183894]
<ipython-input-2-cfc03adb3243>:24: FutureWarning: The default value of numeric_only in DataFrame.corr is d

veri.corr()

[] data=linear.score(X_test,y_test)
data

0.09562603089277644

WITH 18030 ENTRIES OF DATA AND 13 FEATURES USING REGRESSION ANALYSIS WE OBTAIN A SCORE OF ALMOST 96%.

Volunteering and Donation Platform:

Tatkal - Apat is more than just a emergency response system; it's a community-driven initiative. Users can contribute their time and resources to support people suffering from these natual calamites.



(FOOD)



(CLOTHES)



(AIDS)

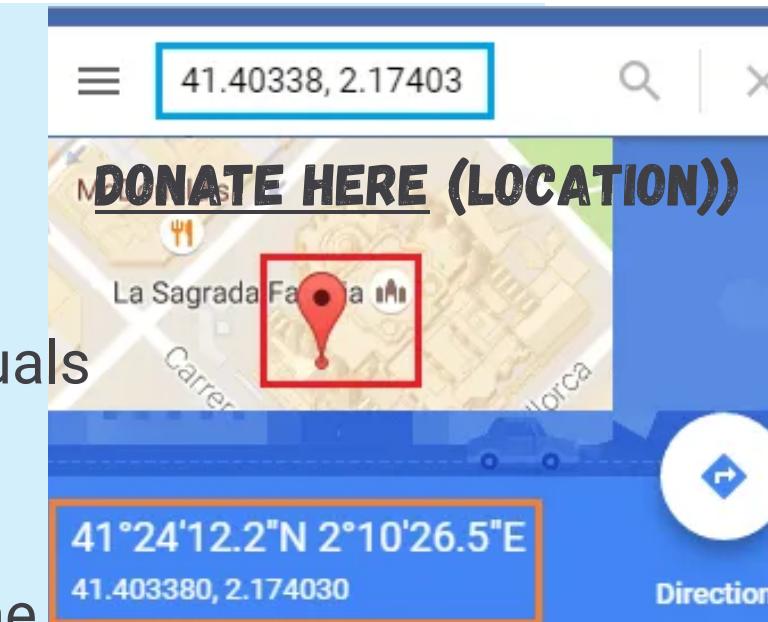


Facilitated Donations



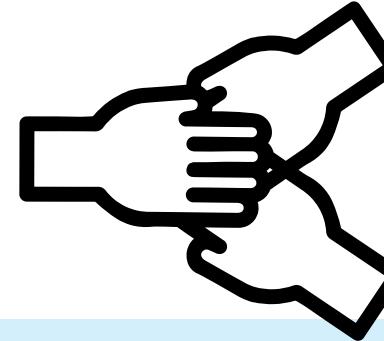
Empowering Relief Efforts

- Essential Item Donations: Platform facilitates the donation of essential items.
- Real-Time Location Data: Donations guided by real-time location data, ensuring efficient distribution.
- Supporting Affected Individuals: Direct support to affected individuals through facilitated donations.
- Community Empowerment: Empowering communities to come together and make a meaningful difference in disaster relief.





Collaboration and Donation Channels:

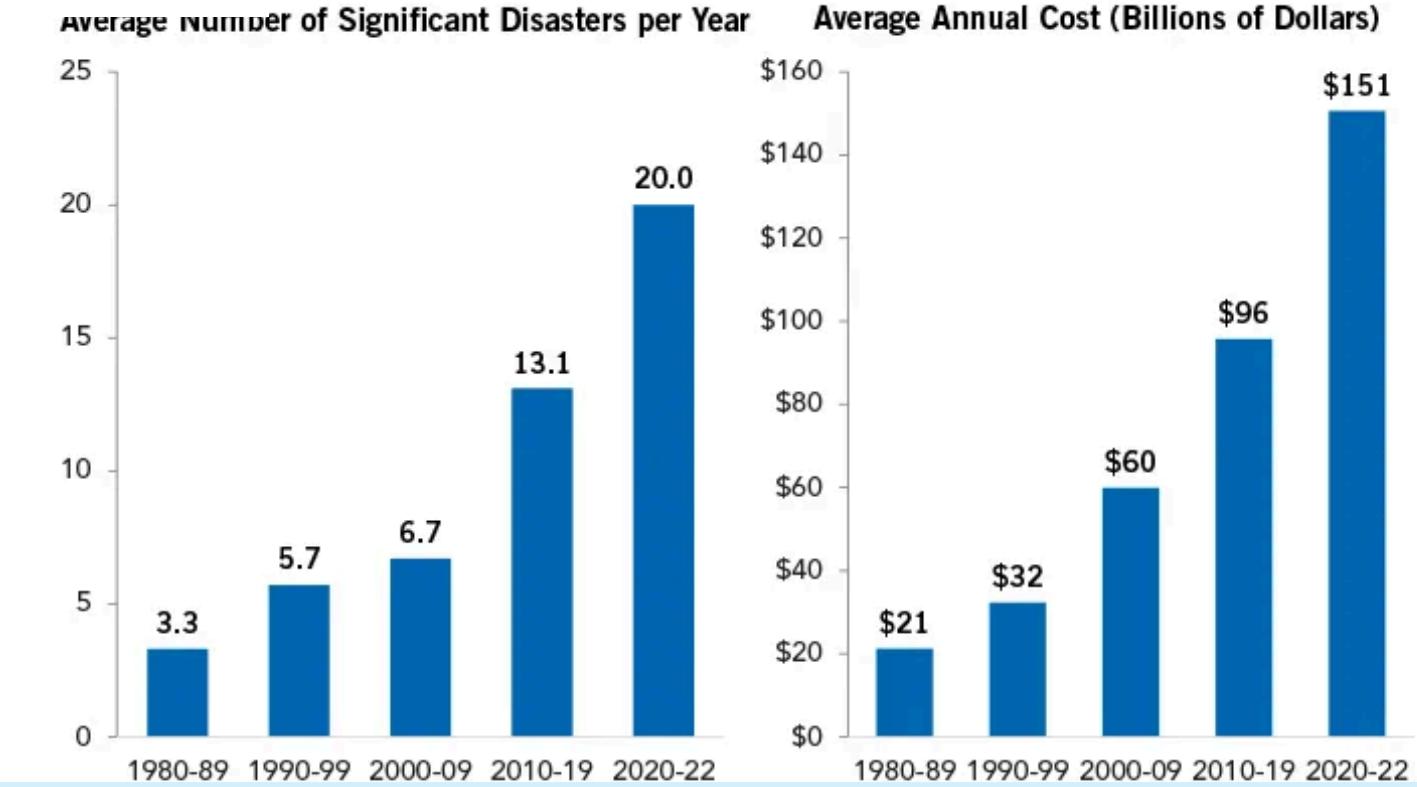
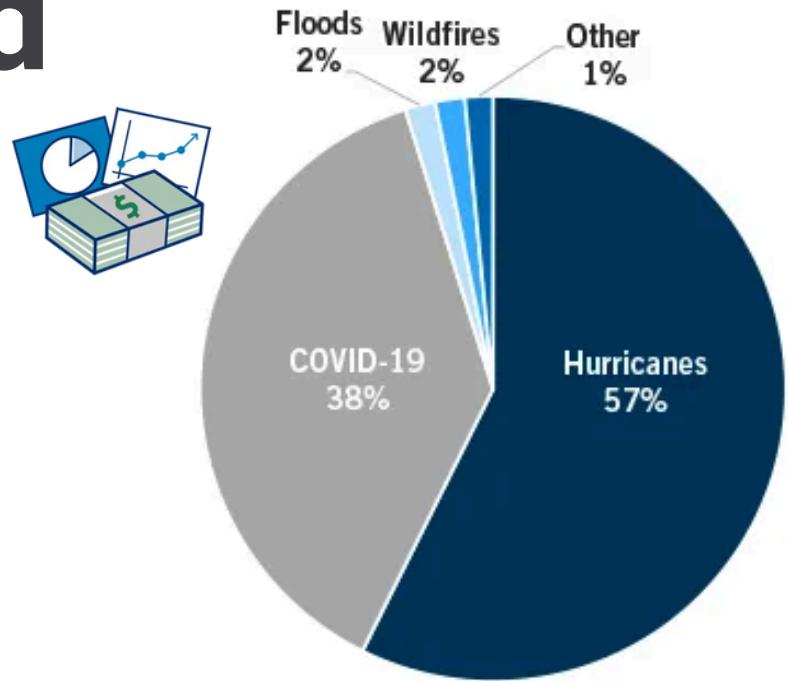


TATKAL-APAT

Cumulative Obligations for Catastrophic Disasters Fiscal Years 2001-2021
\$272 billion

PETER G.
PETERSON
ATION

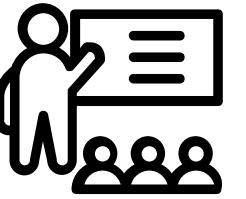
Significant disaster events have become more frequent and
costly over the last forty years



- ✿ **Collaboration** is emphasized in our approach.
(For Funds and Earning).
- ✿ We wonder to **work closely with NGOs** and government agencies such as the **National Disaster Response Fund (NDRF)** and **State Disaster Response Fund (SDRF)** with this project.

- ✿ The goal of these partnerships is to amplify the **impact of donations and rescue helps**.
- ✿ Direct contributions to beneficiaries are facilitated, **minimizing unnecessary intermediaries**.
- ✿ This ensures efficient distribution of aid to those who need it most.

Education and Webinar Platform:



LIVE STREAMING



sponsorship

Platform Establishment

Tatkal - Apat sets up a platform for conducting webinars and educational sessions focused on disaster management.

Content Delivery
These sessions feature interaction with experts in the field of disaster management.

Community Engagement

Tatkal - Apat actively engages disaster-prone communities in these Educational initiatives.

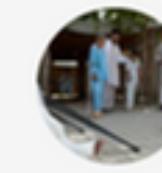
Empowerment and Resilience Building

By imparting knowledge and fostering community engagement, Tatkal - Apat empowers disaster-prone communities to take proactive measures.
(CAN BE USE FOR SPONSORSHIPS)

Conclusion and Results :

- Tatkal - Apat signifies a transformative approach to disaster management.
- It introduces innovative features such as immediate action mechanisms and predictive analysis.
- These features empowers both individuals and communities to respond swiftly and effectively during crises.
- The platform's User-friendly interface enhances accessibility and usability for all users.
- Tatkal - Apat promotes a collaborative approach, facilitating partnerships between various stakeholders in disaster management.

Disaster Management



Online Course:
Rehabilitation in Disaster
and Conflict Programme



Online Course: Mobile
Phone Use in Disaster,
Conflict and Displacement



Online Course:
Introduction to
Rehabilitation in Disaster
and Conflict Situations

- For Future we have plans like providing Online courses to aware the people and to increase their knowledge about Disaster and it's management.
- Other idea is to Add a Shopping Section for to buy resources which are most usable at time of a calamity , with reasonable rate and quick services .



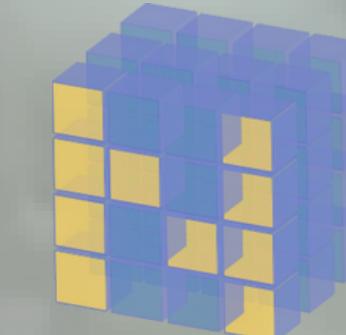
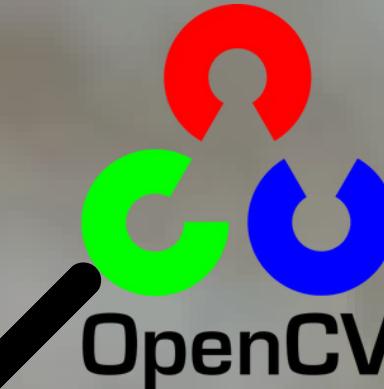
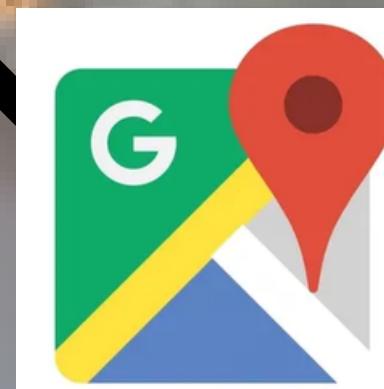
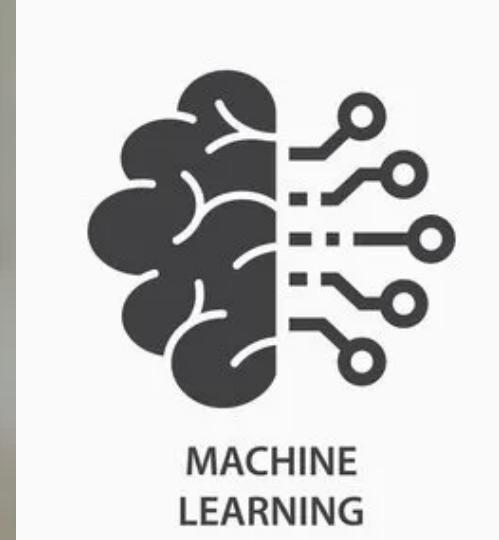
Our Future Goals



python™



JS



NumPy



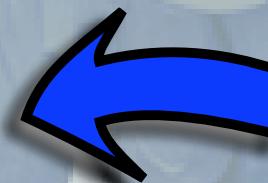
LangChain - ASK TATKAL

We will Made an platform inside learning where if some doubt occurs one can directly access to the LLMs of the particular topics related to Disaster Management and it will give you the followinig outputs

Hence Output is the desired doubt question's answer a particular student asked for during learning times thus this helps a lot in concept building he need not to go to other platforms.



Gemini



Api Identity

It will train with the accurate and precise data updated data from GPT 4.0 and only gives more better results in field of Disaster Mangement as it is trained on it only.

HOW WE ARE DIFFERENT ?

PARAMETERS	-	<u>OUR PROJECT</u> YES/NO	<u>OTHER COMPETITORS</u>	YES/NO
		IBM	ESRI	
PREDICTION	-	✓	✓ ✗ ✗ ✓ ✓	
FUN PURPOSE(CAM)	-	✓	✗ ✗ ✗ ✓ ✓	
DONATION	-	✓	✓ ✗ ✓ ✓ ✓	
EMERGENCY SRV.	-	✓	✗ ✗ ✓ ✓ ✓	
WEBINAR EDUCATION	-	✓	✗ ✗ ✓ ✓ ✓	



"In times of disaster, swift action can be the difference between life and death. Emergency response isn't just about saving time; it's about saving lives."

NEWS : IN 2018, AS HURRICANE FLORENCE APPROACHED THE SOUTHEASTERN UNITED STATES, EMERGENCY AND DISASTER MANAGEMENT AUTHORITIES IMPLEMENTED A COMPREHENSIVE PLAN TO MITIGATE ITS POTENTIAL DEVASTATION.

THANK YOU!



NEWS : JAPAN TSUNAMI (2011): JAPAN'S EMERGENCY PREPAREDNESS AND SWIFT RESPONSE TO THE TSUNAMI SAVED MANY LIVES THROUGH EARLY WARNING SYSTEMS, EVACUATIONS, AND EFFECTIVE DISASTER MANAGEMENT PROTOCOLS.

TATKAL-APAT