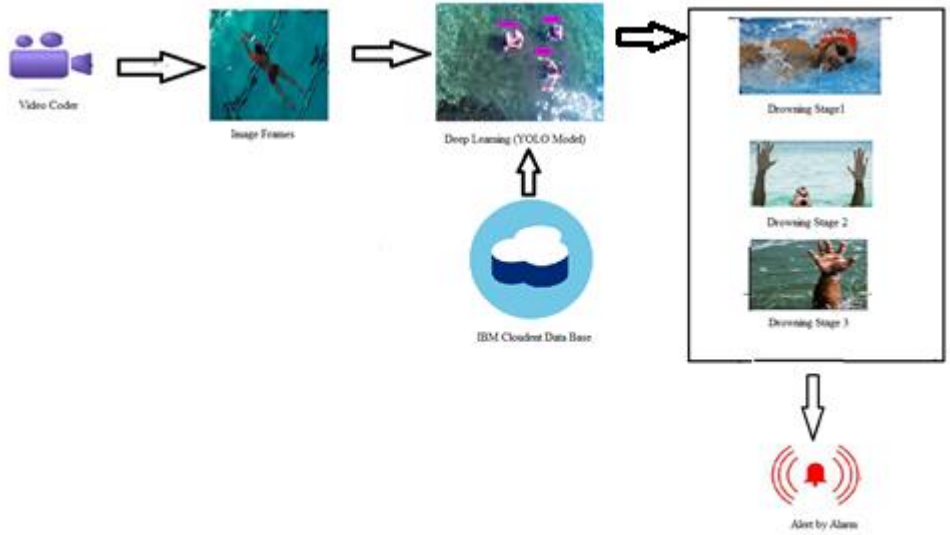
Project Design Phase-II
Technology Stack (Architecture & Stack)

Team ID	TEAM ID:PNT2022TMID50752
Project Name	VIRTUAL EYE LIFEGUARD FOR SWIMMING POOL TO DETECT ACTIVE DROWNING SYSTEM
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application	HTML, CSS, JavaScript
2.	Application Logic-1	Existing frames from live video feed	Python
3.	Application Logic-2	Person Detection	Python
4.	Application Logic-3	Detect Drowning	Python
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM Cloudant DB.
7.	File Storage	File Storage requirements	IBM Block Storage or Other Storage Service or Local Flesystem
8.	Machine Learning Model	Detect humuns	Object Recognition Model (YOLOv7)
9.	Infrastructure (Server / Cloud)	Application Deployment on Cloud	Cloud Foundry

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Anaconda Navigator,PyTorch,Flask	Technology of Opensource framework
2.	Security Implementations	security / access controls	IAM Controls
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc.	Technology used