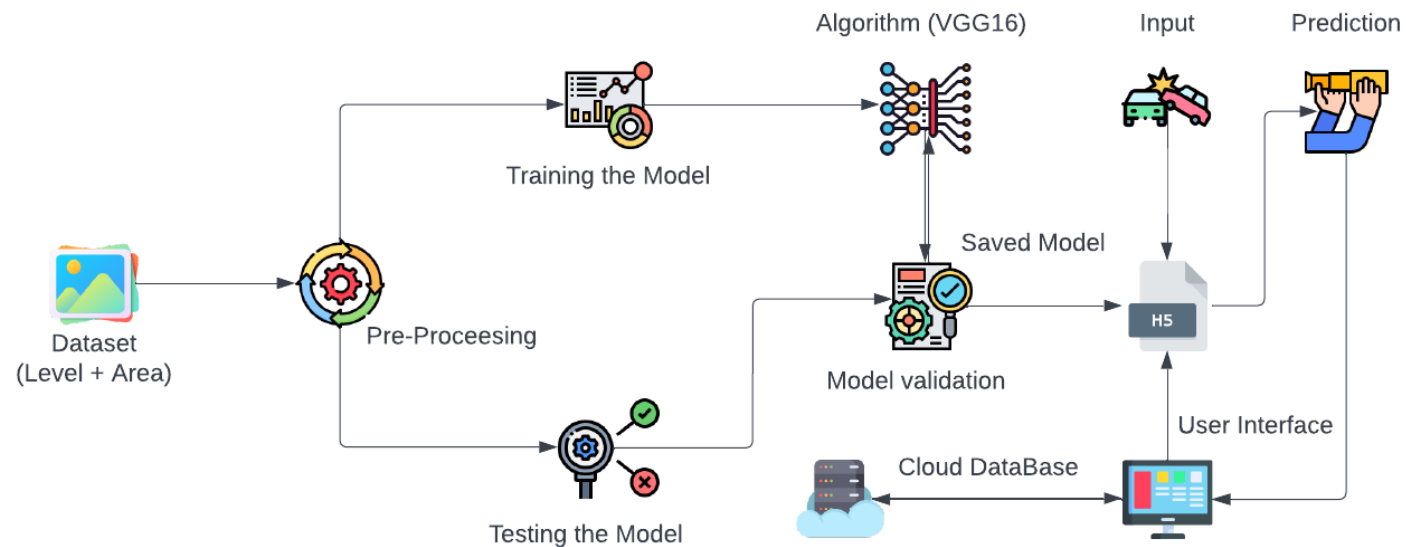


## Project Design Phase-II Technology Stack (Architecture & Stack)

|               |  |
|---------------|--|
| Date          | 03 October 2022  |
| Team ID       | PNT2022TMID35960   |
| Project Name  | Project - Intelligent Vehicle Damage Assessment & Cost Estimator for Insurance Companies |
| Maximum Marks | 4 Marks  |

### Technical Architecture:

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



**Table-1 : Components & Technologies:**

| S.No | Component                       | Description  | Technology                 |
|------|---------------------------------|--|----------------------------|
| 1.   | User Interface                  | How user interacts with application e.g. Web UI                                      | HTML, CSS                  |
| 2.   | Application Logic-1             | Handle all the user requests done via the Web UI / Display the results after process | Python Flask Server        |
| 3.   | Application Logic-2             | Process the image provided by the user via Web UI                                    | Python                     |
| 4.   | Application Logic-3             | Train the model and provide the classification result for the given image            | IBM Watson Studio          |
| 5.   | Cloud Database                  | Database Service on Cloud  | IBM DB2, IBM Cloudant etc. |
| 6.   | File Storage                    | File storage requirements  | Local Filesystem           |
| 7.   | Machine Learning Model          | Purpose of Machine Learning Model  | VGG16 Pre Trained Model    |
| 8.   | Infrastructure (Server / Cloud) | Application Deployment on Local System   | Local                      |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description  | Technology  |
|------|--------------------------|--|---|
| 1.   | Open-Source Frameworks   | List the open-source frameworks used                                       | Flask, TensorFlow, Keras, NumPy, OpenCV             |
| 2.   | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | IAM Controls  |
| 3.   | Scalable Architecture    | Justify the scalability of architecture (3 – tier, Micro-services)         | 3-tier type (Web server, App server and DB server). |

| S.No | Characteristics | Description   | Technology   |
|------|-----------------|---|--|
| 4.   | Availability    | Justify the availability of application (e.g. use of load balancers, distributed servers etc.)                            | Local: Available based on computer's specs. Cloud: Web server, DB server available when requested. App server requires high requirements compared with other 2 servers, thereby availability is bit less but can be compensated by cloud |
| 5.   | Performance     | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc. | Accuracy of model: >85% (Expected)<br>Number of requests per second: 250 – 1000 (based on network traffic, 250 is default as targeted user group is moderate)  |