

CSE623: Machine Learning: Theory and Practice**Group: 5 Project no.:11**

Weekly Report 5

Name	Enrollment number
Daksh Shah	AU2240207
Shalvi Modi	AU2240215
Malav Modi	AU2240214
Mahi Patel	AU2240210
Vinisha Kankariya	AU2220100

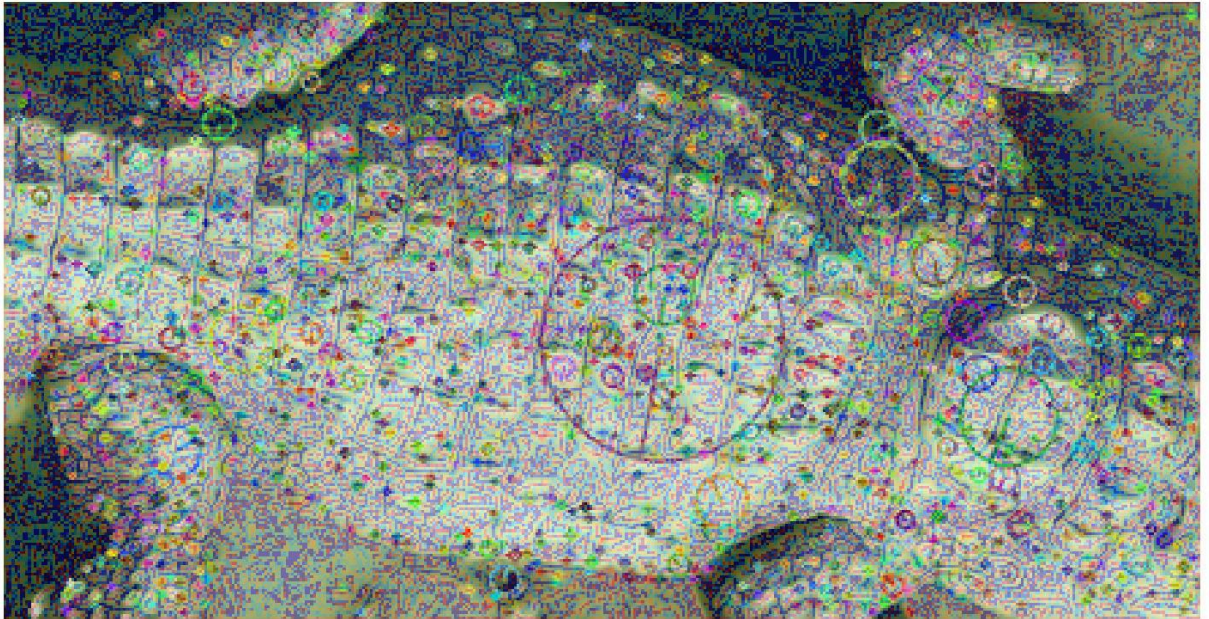
Summary:

Using Unmanned Aerial Vehicle (UAV) drone images the project works to detect wild mugger crocodiles (*Crocodylus palustris*). Research on mugger crocodiles requires individual identification because this species faces vulnerability which means population dynamics need monitoring along with behavioral pattern analysis. The current identification practices depend on invasive tagging methods that create stress in addition to disturbing natural environments of wild animals. The system provides solutions to identification challenges through the deployment of distinctive scute patterns for non-invasive identification processes. Various high-resolution imaging analysis methods now let researchers detect both specific animal subjects and separate different wildlife species effectively. Our system utilizes the YOLOv8 model which creates bounding boxes to establish exact location detection in addition to giving wildlife population monitoring both speed and scalability capabilities. Our system makes use of the model to identify wildlife effectively without dependency on human interaction and generates precise results for classification. This project design features flexibility which allows its use for multiple species dealing with similar conservation threats. The system brings substantial progress to ecological research by connecting automated identification capabilities with advanced image analysis systems.

Task completed:

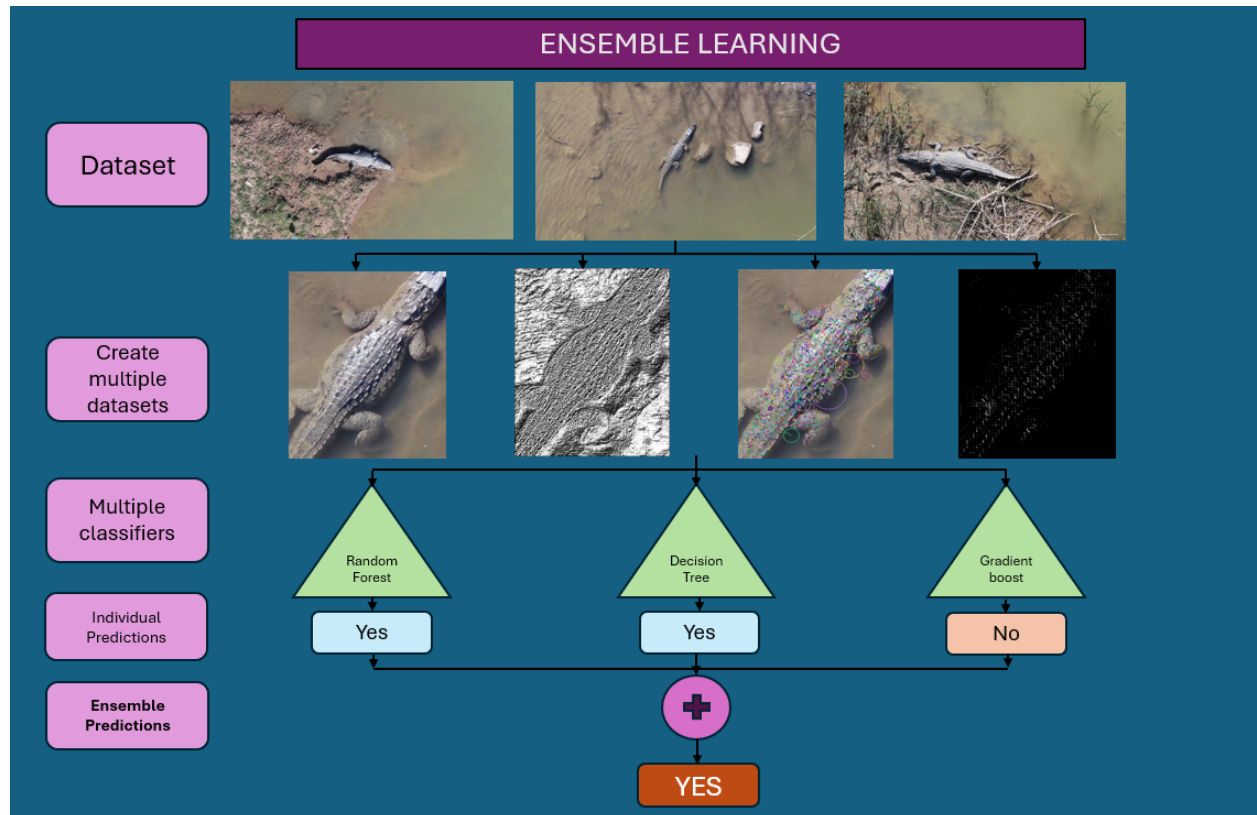
- Implemented merging of the SIFT and LBP features for efficient feature extraction.

Fused SIFT + LBP Features on Image



- Trained the model for ensemble learning approach

Flowchart:



Goals for Next week:

1. **Incorporating new data** - New season mugger data incorporating for testing the accuracy of our model
2. **Comparing the results with CV approach**
3. **Fine tuning the model**
4. **Working on the results-** generating the final results by fine tuning the model