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**CSE 532 MACHINE LEARNING**

**Weekly Report – 6**

**UAV’s Ground Sample Distance (GSD) Calculation   
Using AU Drone Dataset**

**~ Submitted To Prof. Mehul Raval**

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* **Weekly Progress:**

The methodology used for the work done this week was:

1. **Frame Extraction:**

* We received a new video dataset for the Ground Sampling Distance (GSD) project.
* We extracted video frames into individual images for further processing.
* Extracted frames from the pre-processed video at a consistent rate of 30 frames per second (fps).

1. **Gaussian Blurring and Video Pre-processing:**

* To maintain the consistency in the image's colour and reduce the noise level from the data, we applied Gaussian Blurring. We pre-processed the video to ensure consistent colouring for accessible object highlighting.
* Applied techniques to enhance object visibility, making it suitable for bounding box detection.

1. **Object Identification:**

* Identified challenges with extra bounding boxes due to similar RGB values in non-object areas.
* Explore optimisation techniques to enhance object highlighting and bounding box accuracy further.
* Investigate methods to handle variations in lighting conditions or object orientations for robust detection.