

AHMEDABAD UNIVERSITY
SCHOOL OF ENGINEERING AND APPLIED SCIENCE
Winter Semester 2024
CSE-541 Computer Vision

Team Number: 3

Members:

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Project 6: Explore oriented object detection (OOD) models. Create our own AU drone

- dataset for such a model and then test/validate trained models.

WEEKLY REPORT

(Week 7)

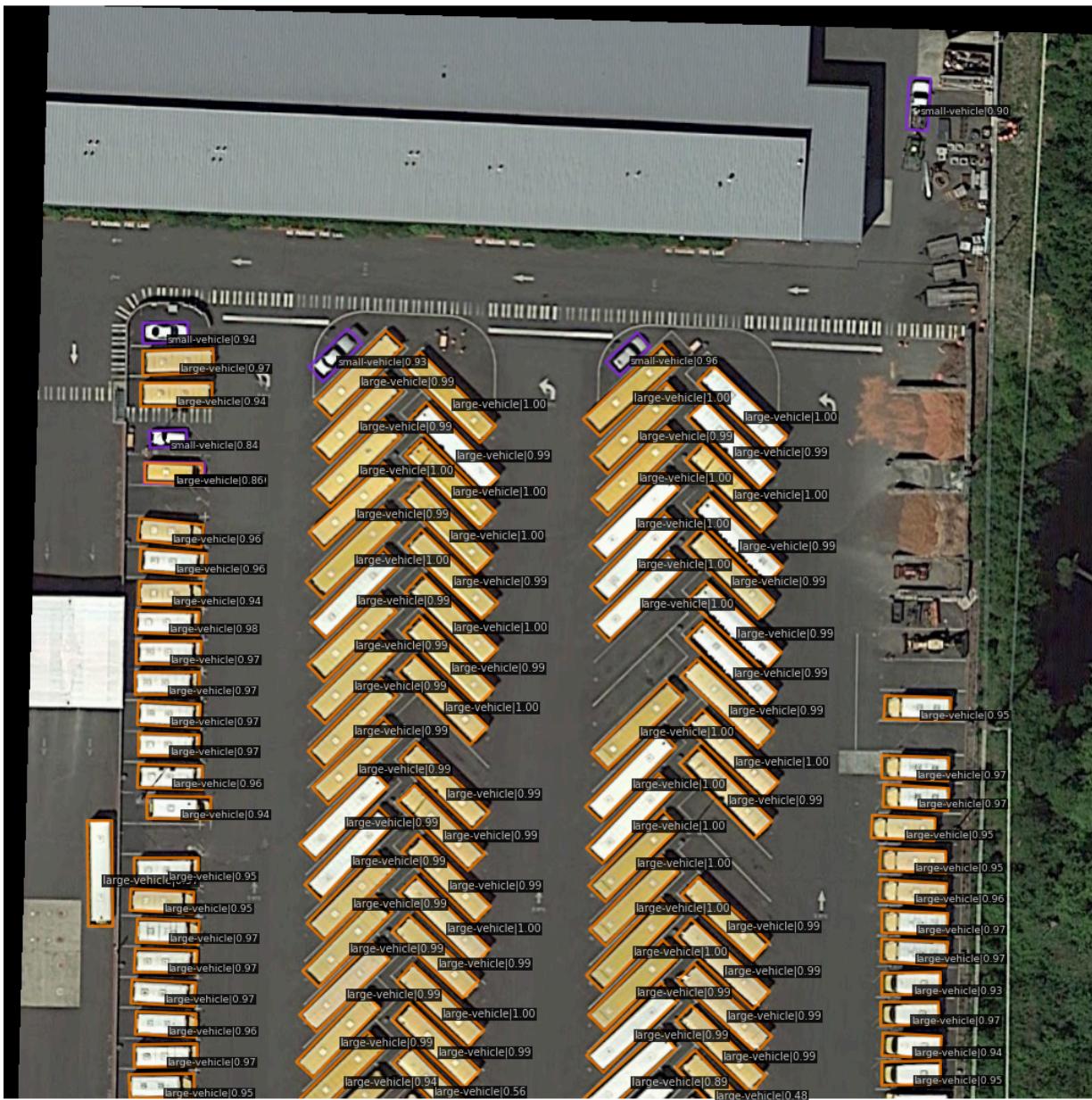
(17/03/2024 - 24/03/2024)

Tasks Completed:

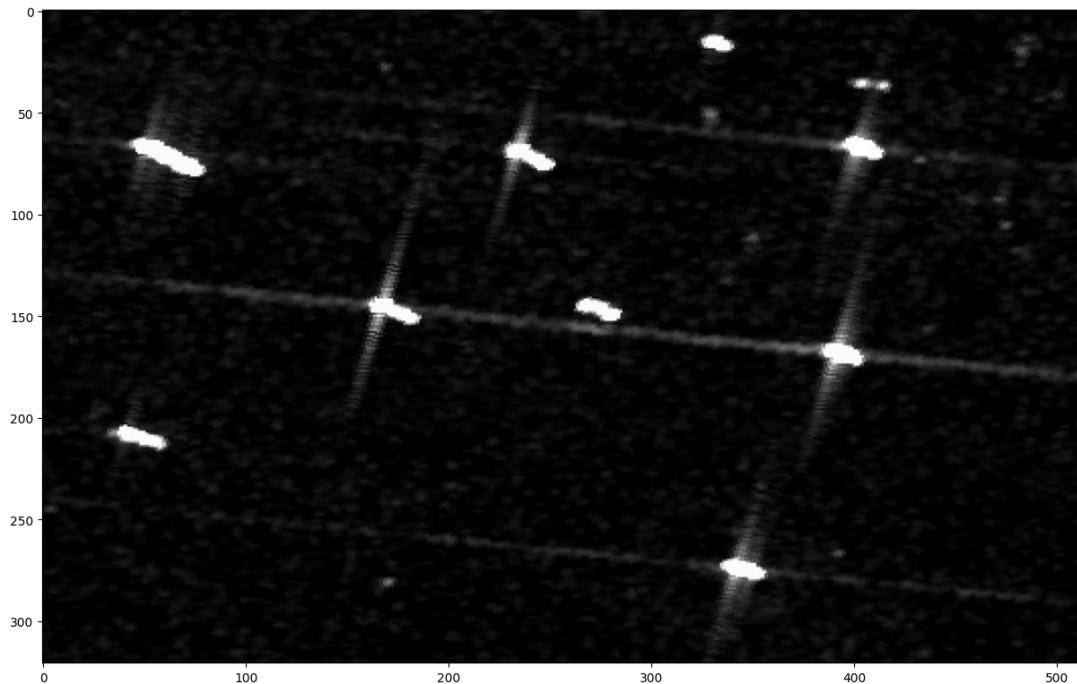
- Explored OOD using the Oriented RCNN architecture.
- Got primary results using Oriented RCNN and YoloV8
- Trained and tested a custom model using Oriented RCNN on SAR Ship Detection Dataset.
- Tested the dataset and got the primary results from our custom model as well.

Primary results using Oriented RCNN:

result



Results of our custom model:



YoloV8 Results:



Challenges Faced:

- Investigating OOD detection made clear how difficult it is to recognize and manage data distributions outside of the training set. Because DOTA was too big, SSDD Dataset was used instead.
- Technical difficulties were encountered when integrating Oriented RCNN with YoloV8, mainly in terms of compatibility and optimization. It will be essential to address these issues in order to ensure smooth integration and accurate evaluation.

Future Milestones:

- Compare performance of models w.r.t small objects on AU drone dataset and understand the intricacies of the model.