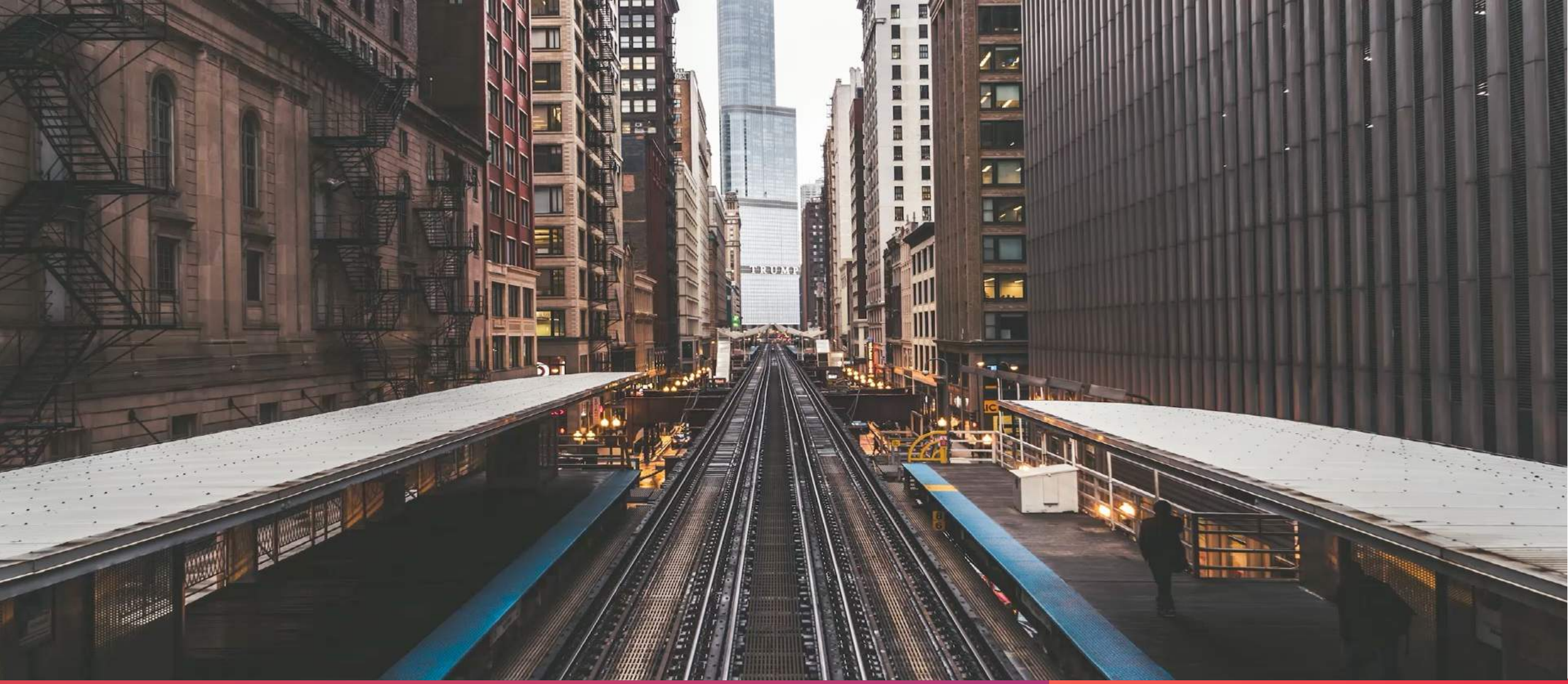


NRCAN - VIARAIL COMPUTER VISION PROJECT

- SANYAMI SHAH

Introduction

Research question

Related work

Methodology

Result

Analysis

Conclusion

Future Work

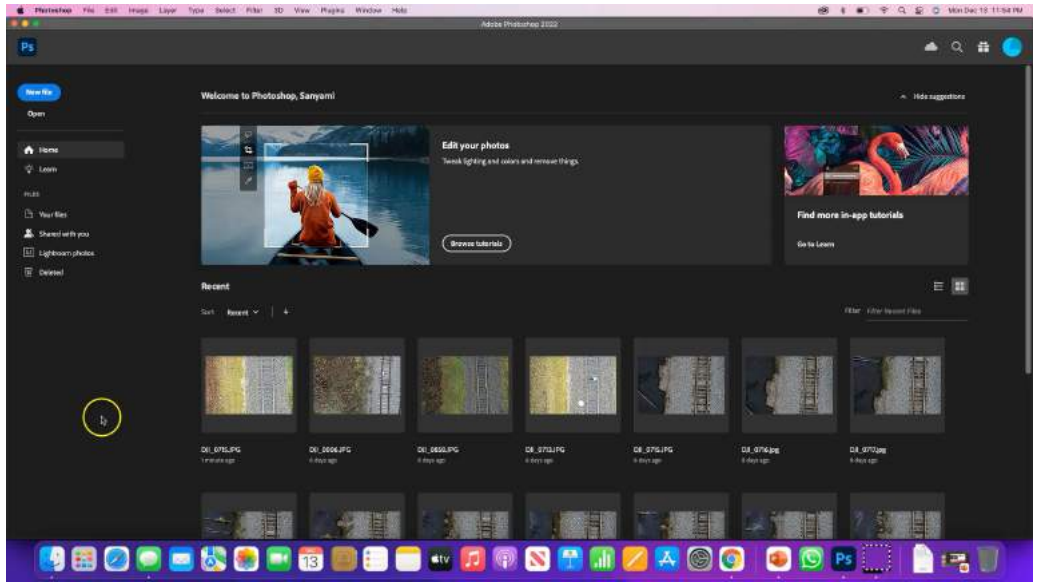
AGENDA

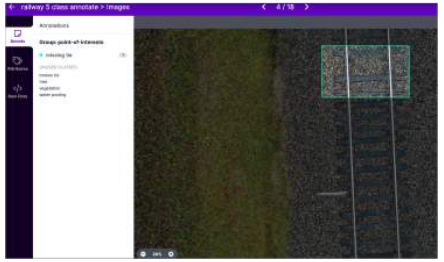
INTRODUCTION

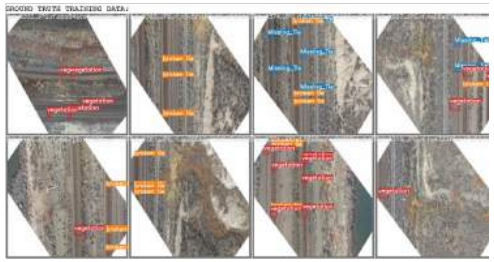
RELATED WORK

	Paper 1	Paper 2	Paper 3	Paper 4	Paper 5
Problem	detect the face from the VR game.	Managing real time parking using computer vision	detecting and recognizing real time license plate	The lack of sign language interpreters and effective methods to assist ordinary people in communicating with the hearing impaired require a convenient tool that makes sign language friendly for everyone	Detection of contrabands in X-ray screening images
Proposed Solution	train the model with the neural network to detect faces.	the paper follows an approach to perform the operation in real time and is currently being used in estimating the density of parking spaces, amongst other applications.	proposed method uses an end-to-end training method and a multi-task learning strategy to simplify the pipeline of our model and effectively increase the performance of our model. We propose an effective method that can use the results from the license plate detection task to remove noise features to improve the recognition accuracy		YOLO based model is used to detect the contrabands in X-ray screening images
Evaluation methodology	To verify the accuracy of the trained model, the single, multiple, and numerous VR game face detection was tested. It can accurately detect the position of the face when user immerses in interaction	The paper describes a 4-layer architecture for parking management which involves a HAAR based frame extraction from live video feed followed by a YOLOv2 deep neural network approach that supports real time detection of vehicles	detection head we designed can detect the bounding box and four corner points of the license plate, and then we apply the ROIAlign method to extract the features on the same backbone in order to perform license plate recognition.	paper presents an implementation using a recurrent neural network (RNN) with a Mediapipe hand tracking framework for Sign Language Gesture Recognition.	
Result	collected the face images of the VR games, annotated the position of the face and used the YOLOv5 neural network as a single target face detection.	detection system developed using this model has been extensively tested on real time traffic in Bangalore and has generated accuracies close to 95% with video data that has been cross verified manually, making it much more effective than sensor-based models.	The resulting architecture, called RT-LPDRnet, outperforms all the SOTA methods on the large-scale license plate data set Chinese City Parking Dataset, meanwhile with faster inference time than recent methods	The Mediapipe misunderstands sleeve wrinkles into hand. The Mediapipe misses capturing right hand movementPaper presents an implementation using a RNN with a Mediapipe hand tracking framework for Sign Language Gesture Recognition.	experimental results show that the precision and the recall rate of contrabands detection under simple background are respectively higher than 98 % and 94 %. In complex environment, the precision remains above 95 %, but the recall rate of some kinds of contrabands dropped down to about 70 %.
Future Work	will focus on the influence of facial features outside the helmet concealed area on human emotion.				

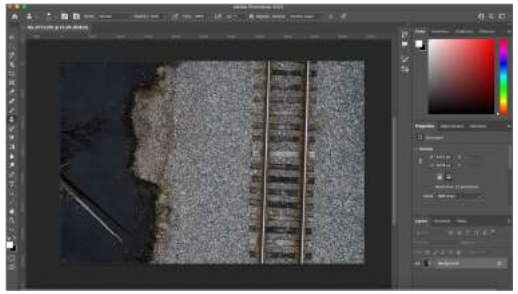
RESEARCH QUESTION

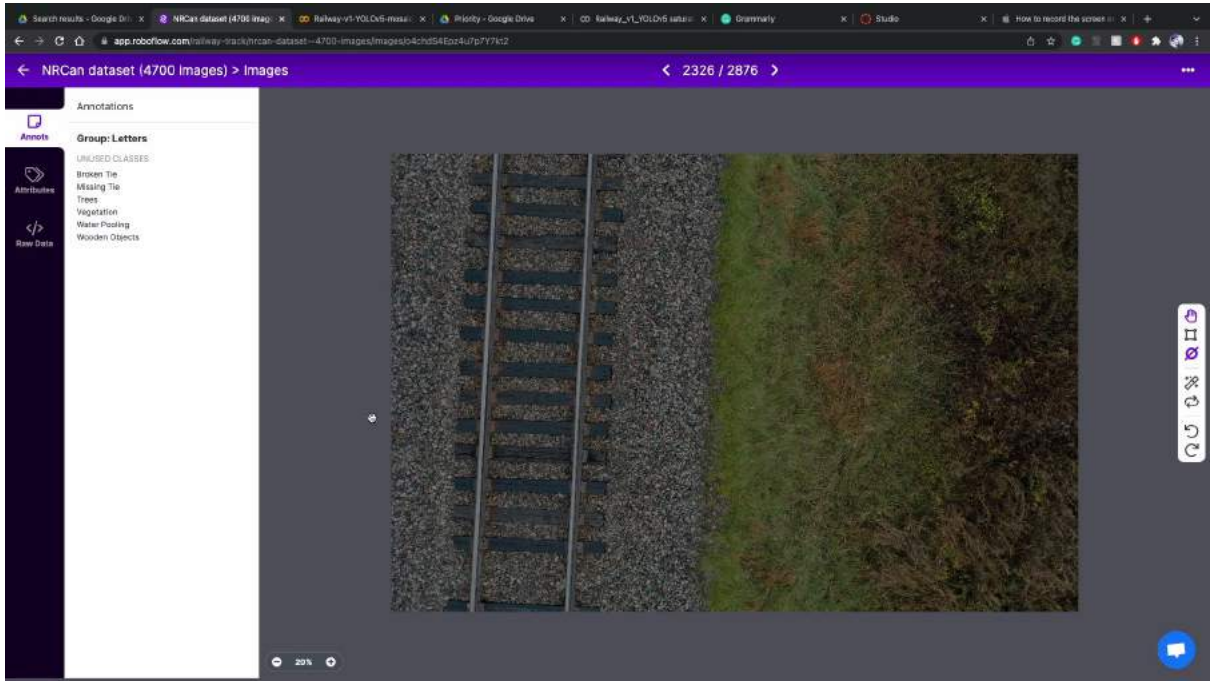


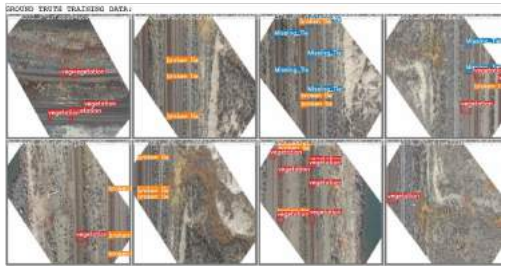




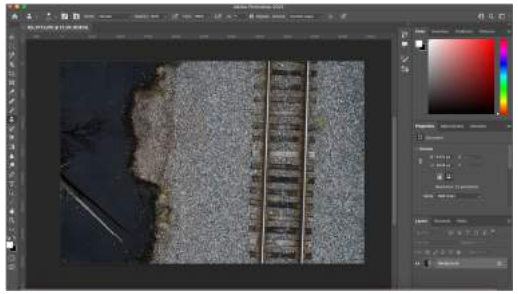
METHODOLOGY

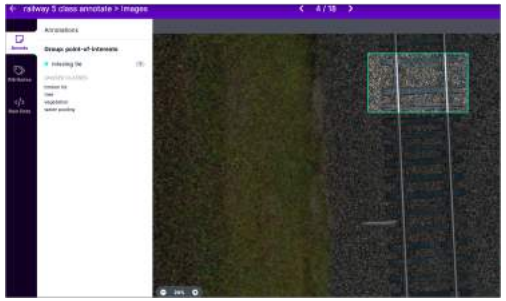


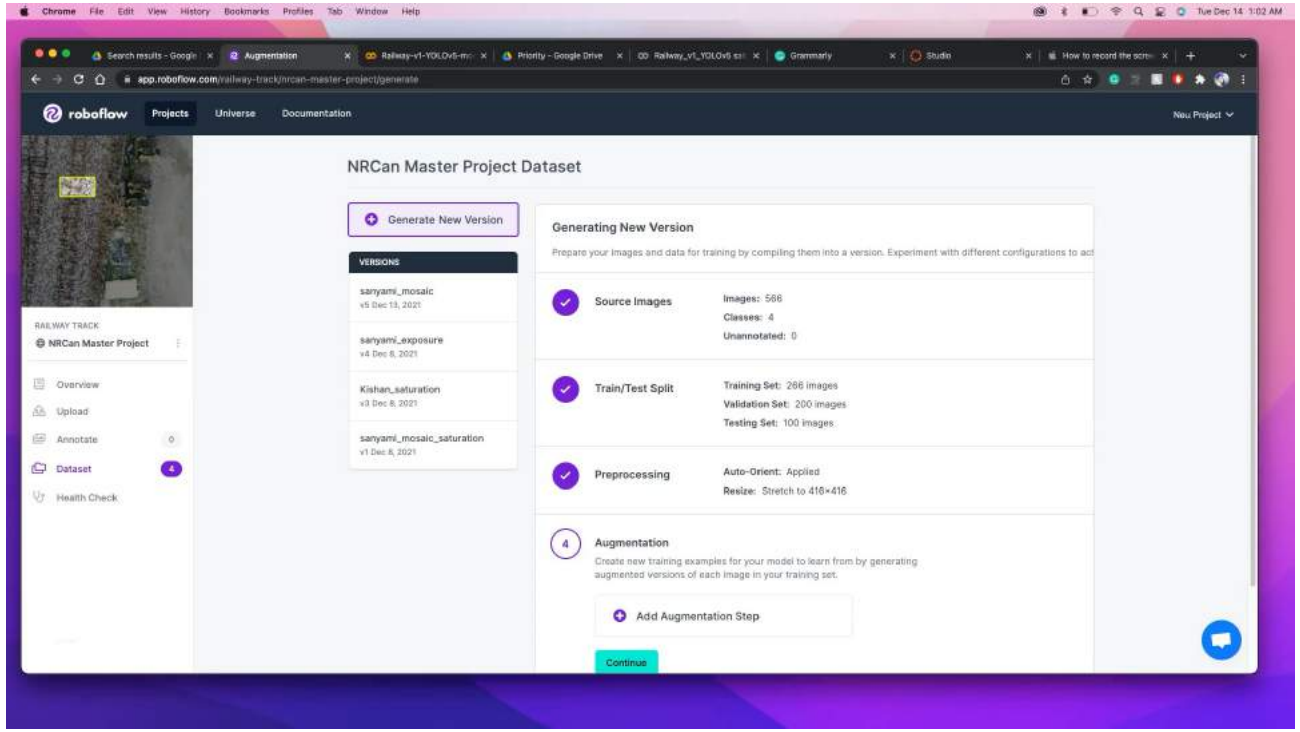




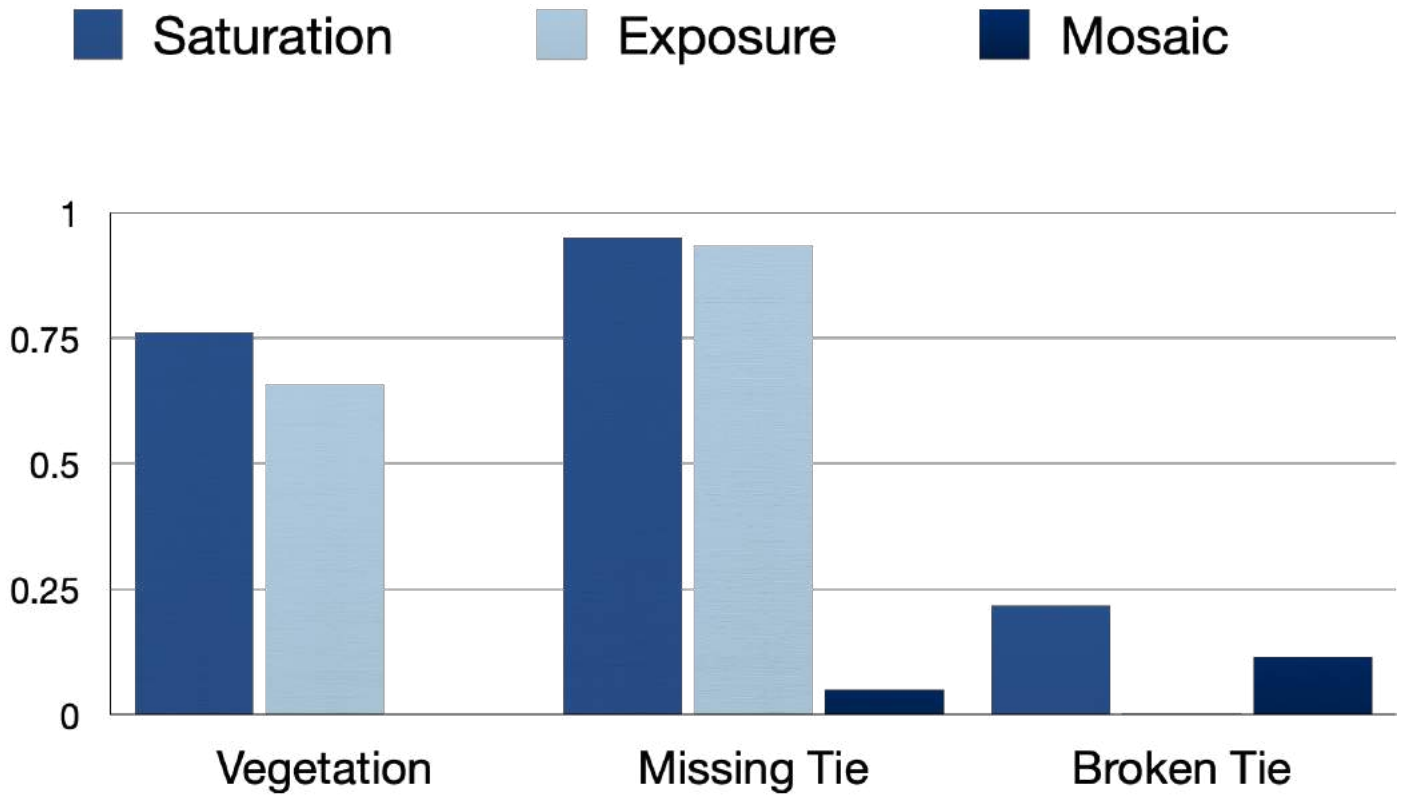
METHODOLOGY







METHODOLOGY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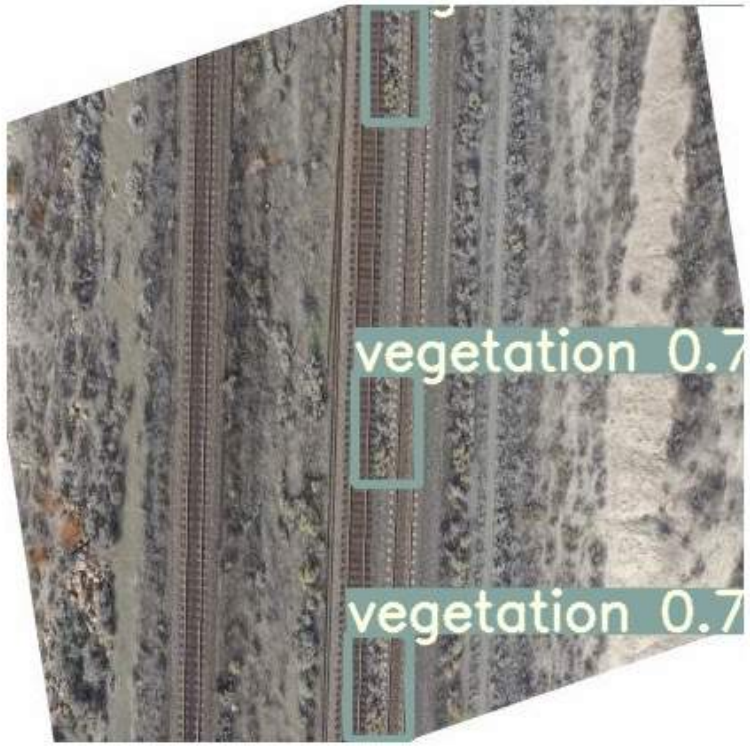
Vegetation
Missing Tie
Broken Tie

ANALYSIS

RESULT FOR SATURATION



RESULT FOR EXPOSURE

RESULT FOR MOSAIC

CONCLUSION

FUTURE WORK

THANK YOU