Weekly Report-2

CSE-541 (Computer Vision)

ProjectNo_2   GroupNo_5

Project Title

"<u>Road Markings Detection and Road Measurement in Aerial Imagery</u>"

Date of Submission: 10-02-2024

Group Details:

Enrolment No.	AU2140001	AU2140017	AU2140032	AU2140149
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Project Overview:

- We are looking at the various ways and the research papers to develop the model for road markings' detection from aerial images and then look into how it will accurately depict the markings' size and scale. The primary goals are to design the model with an ability to percept road markings and precisely map the pixels to centimeters.

Problem Statement Explanation:

- The road markings are one of the important safety and navigation measures. Correct detection and measurement for different applications, such as autonomous vehicles, is a necessity. The project targets an accurate mapping of road markings from pixel to centimetre, which solves some critical issues of infrastructure monitoring and urban planning.

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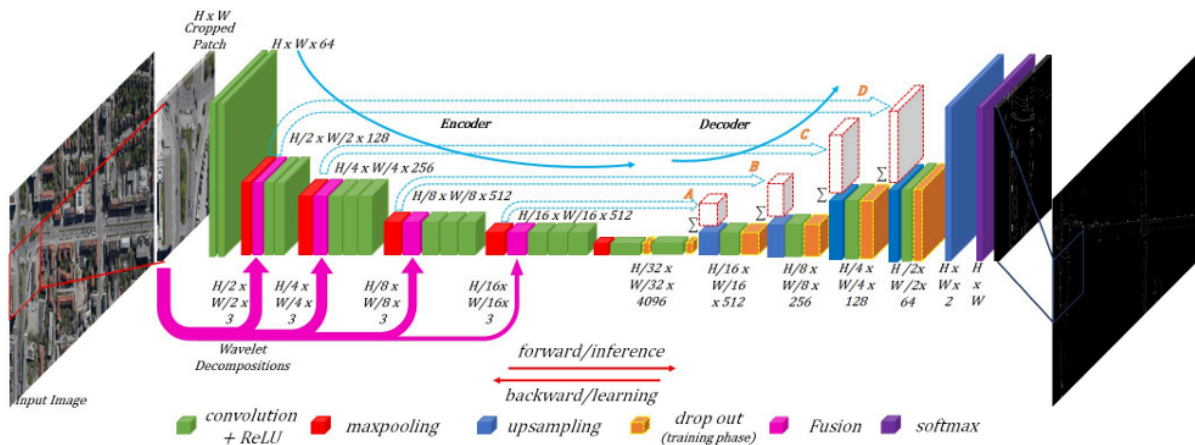## CSE-541 (Computer Vision)

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Literature Survey:

- We conducted the literature survey and are trying to understand the paper titled "Aerial LaneNet: In the paper with the title "Location Semantics of Wavelet-Enhanced Cost-sensitive Symmetric FCNN for Lane Marking in Aerial Images", the authors present an approach which utilizes DWT in FCNNs for the task of semantic segmentation in the aerial pictures. Lastly, we also further investigated the Aerial Lane18 Dataset, which was generated by the photographs taken with the Unmanned Aerial Vehicles (UAVs) captured by the German Aerospace Center and are looking to see if the dataset is available publicly or not.

- Trying to understand the above model of the base paper and learning how to implement the model to our problem statement and then find the dataset which could be used to solve the problem statement.

References :

- Azimi, S. M., Fischer, P., Körner, M., & Reinartz, P. (2019). Aerial LaneNET: Lane-Marking semantic segmentation in aerial imagery using Wavelet-Enhanced Cost-Sensitive symmetric fully convolutional neural networks. IEEE Transactions on Geoscience and Remote Sensing, 57(5), 2920–2938. https://doi.org/10.1109/tgrs.2018.2878510