

TwinLiteNet: An Efficient and Lightweight Model for Driveable Area and Lane Segmentation in Self-Driving Cars

Team Members:

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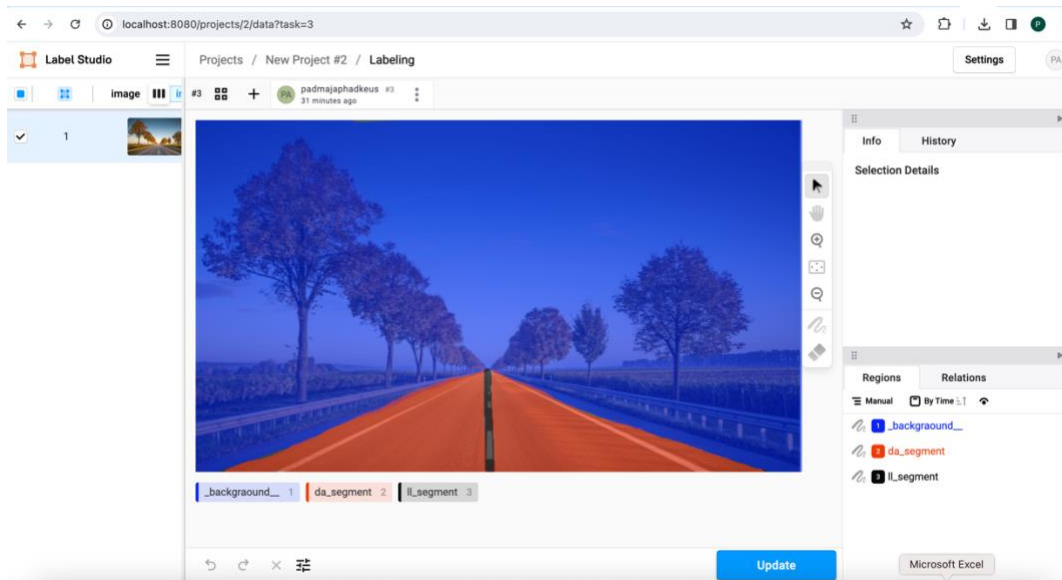
Model

TwinLiteNet:

- This model, as mentioned earlier, is designed to be lightweight and efficient while maintaining good accuracy for the mentioned tasks.
- It achieves this by:
 - Employing the ESPNet-C architecture for efficient feature extraction.
 - Utilizing the Dual Attention Network to enhance the model's ability to focus on relevant information in the image.
 - Implementing simple decoder blocks to reduce computational cost.

Annotation:

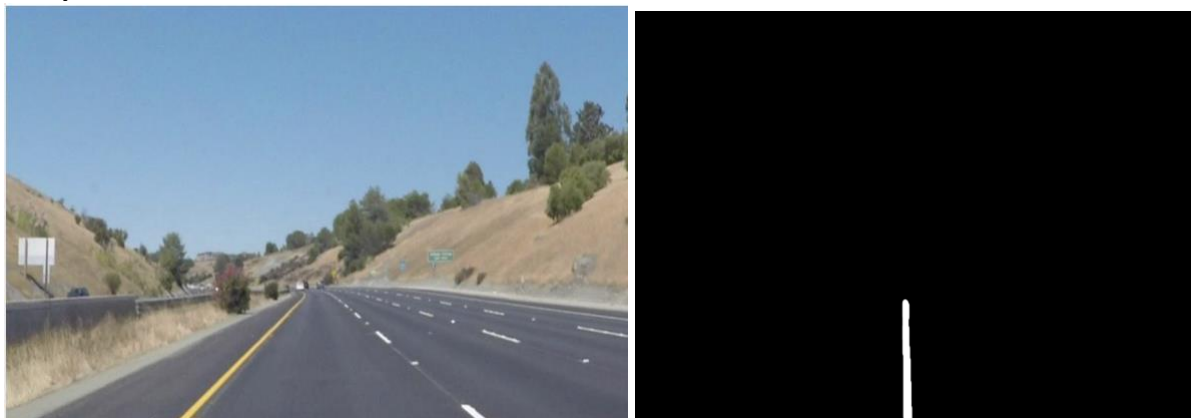
- Our project leverages **Label Studio**, an image annotation tool, to meticulously label road lines and drivable areas within our image dataset.
- Link: <https://labelstud.io/guide>

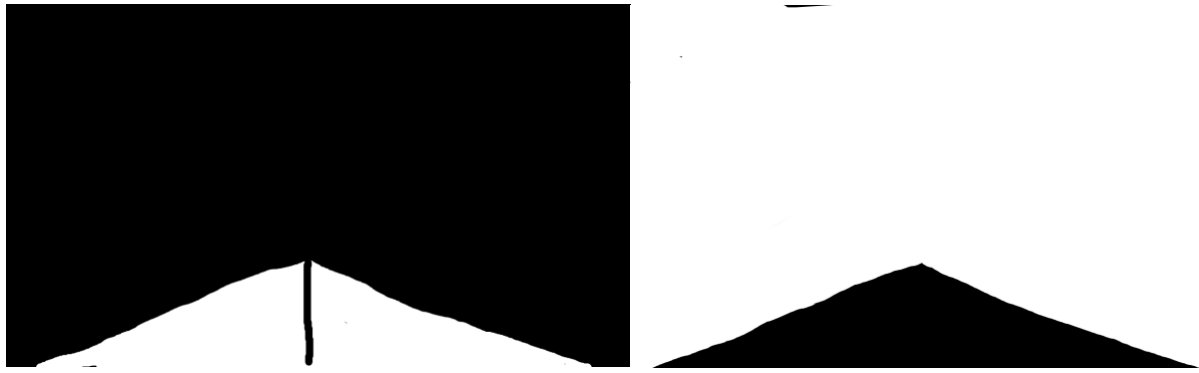


data source:

- Images containing road scenes, specifically those related to lane markings and drivable areas. The dataset is obtained directly from your university.
- We aim to create our own dataset by connecting various group images within the university.

Samples:





Paper Link:

<https://ieeexplore-ieee-org.unh-proxy01.newhaven.edu/stamp/stamp.jsp?tp=&arnumber=10288646>

Code Link:

<https://github.com/chequanghuy/TwinLiteNet/tree/main>