Week 1

- Went through research papers and blogs regarding depth estimation

- Took pretrained models from various implementations available online and evaluated them and checked their compatibility to be tflite convertible.

- Decided to use a U-net encoder-decoder architecture for the task

- Selected the nyu-v2 data set for the task (4.1GB)

Week 2

- Got a clear understanding of the High Quality Monocular Depth Estimation via Transfer Learning paper official Implementation using tensorflow using DenseNet169. The model was high in size (140MB).

- Reconstructed 3d model by combining the rgb images and the depth image outputs obtained using the densenet architecture using Mesh Lab, o3d library.

Week 3

-Implemented the model using MobileNetV2 encoder-decoder

In Tensorflow 2.x

- Made the script tflite convertible and added skip connections as the research paper

- Quantized model to achieve 6-7mb size

Week 4

- Result obtained through my training with mobilenetv2 was not satisfactory so tried optimizing with new loss functions.

- Implemented similar architecture using Efficient Net B0, B1 and DenseNet169

- Started parallel work on video depth estimated and explored through different research works and blogs.