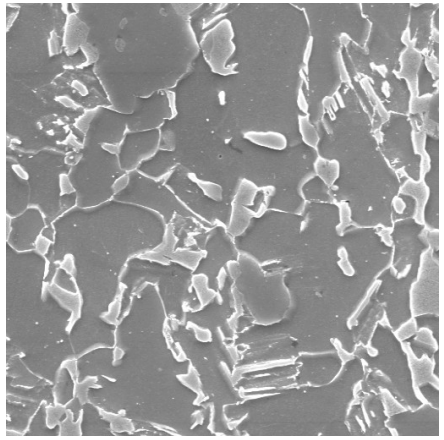
Steel Image Segmentation

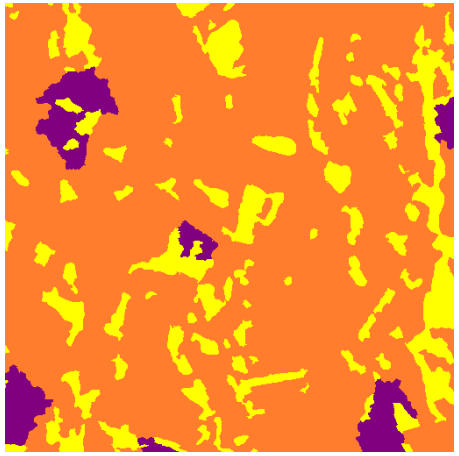
Progress Report

Bishal

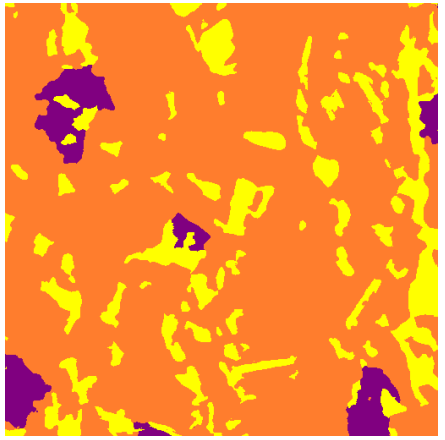
Model Output [old]



Input Test Image



Input Label Image



Output Test Image

Validation mIOU → 0.491552 0.481737

Validation Acc → 97.96 97.44

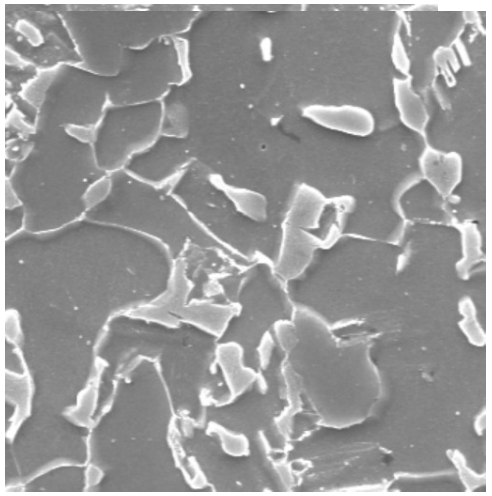
Test Accuracy → 91.99

Dice Coefficient → 0.922 (avg of 48 test images)

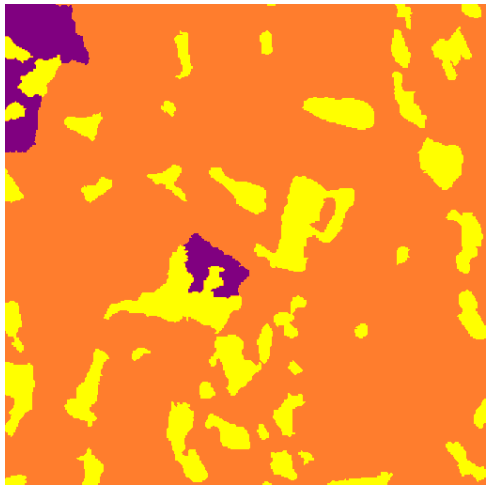
Traning mIoU → 0.494630

Training Acc → 98.91

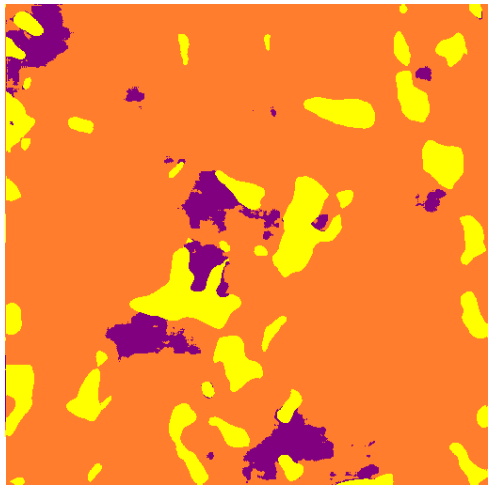
Model Output [new]



Input Test Image



Input Label Image



Output Test Image

Validation mIOU → 0.1734

Validation Acc → 56.87 (Data Imbalance while splitting?)

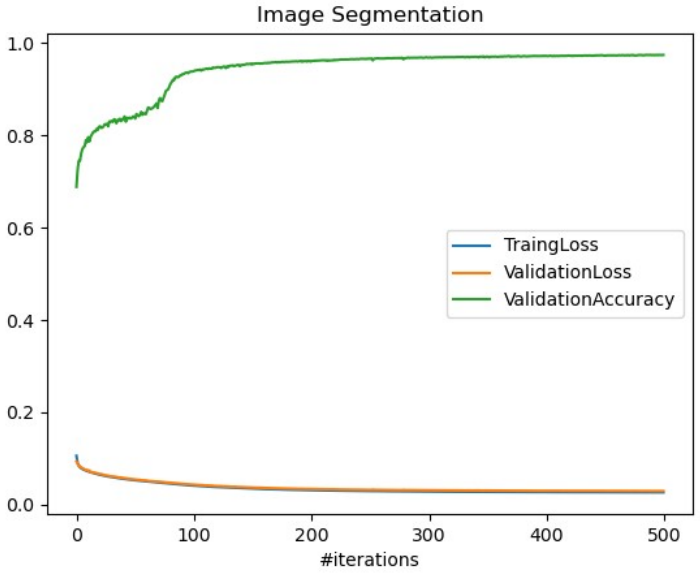
Test Accuracy → 82.99

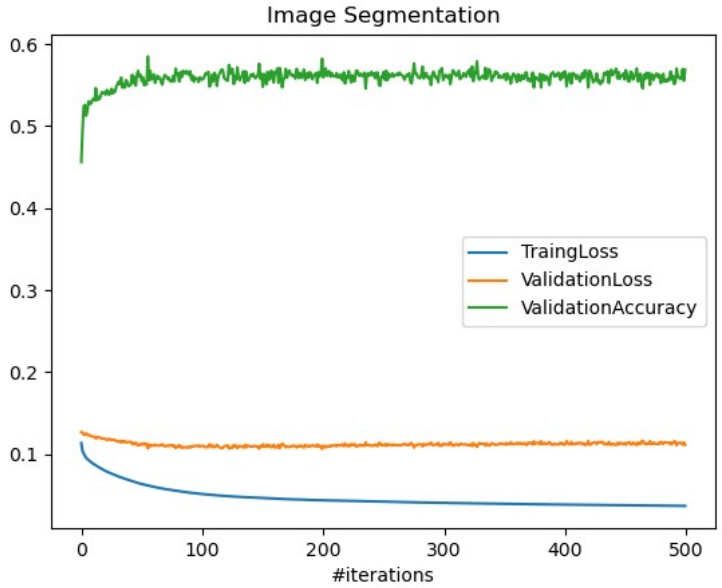
Dice Coefficient → 0.81350676 (avg of 48 test images)

Traning mIoU → -

Training Acc → 91.68

Model Performance





Testing on other type of steel data

	x3000	x5000	typeA	typeB	typeC
Previous	58.85	28.82	46.29	73.61	34.48
New	75.81	83.29	74.83	55.9	69.94

Observation

- There were some performance improvements compared to last results.
- I mistakenly augmented all the images, so no original images were used for training so the validation and type2 steel suffered during classification .
- Magnification, sliding window, random Intensity, random gamma, random noise, and rotation up to 10 degrees were used was using to generate images.
- While training the model, 11724 images were used as train images, 213 images were used for validation, 48 images were used for testing.