

Retinal Vessel Segmentation using nnUnet

Zeiad Khafagy

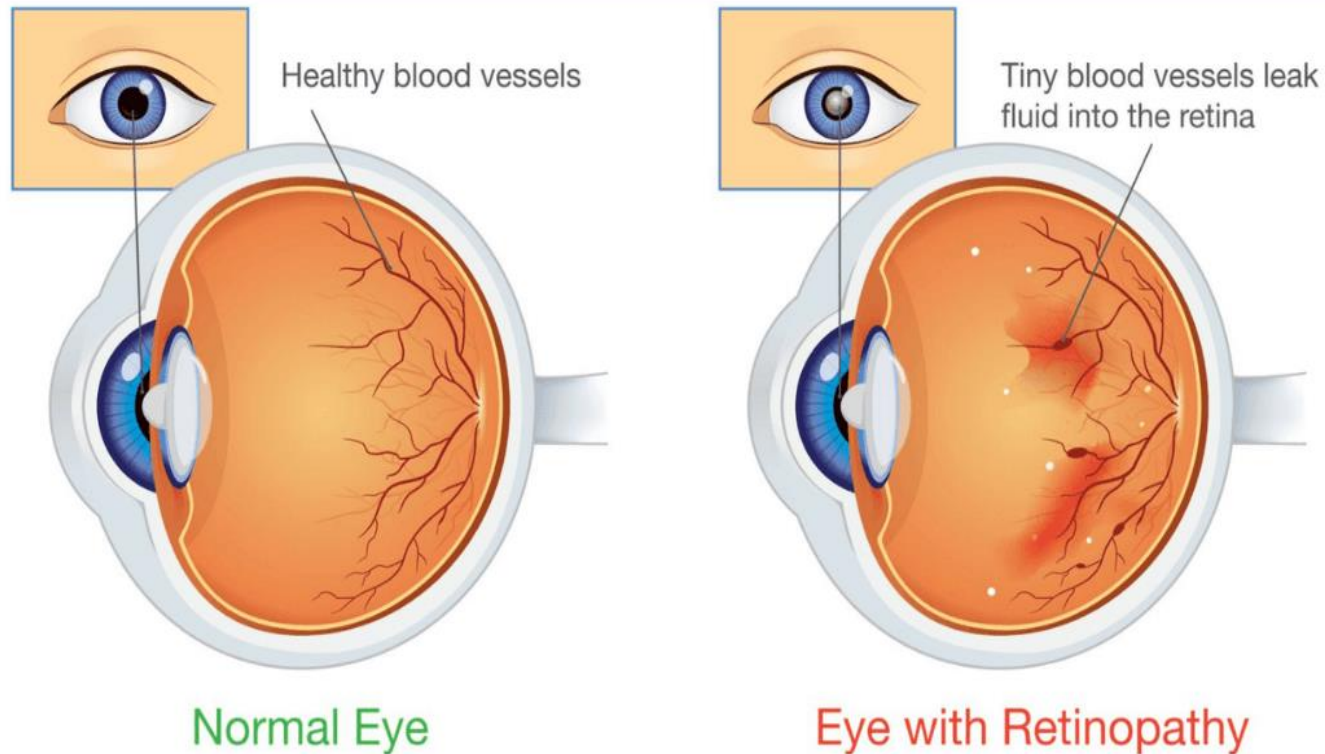
Supervisor:

Prof. İlkey Öksüz

Problem Statement

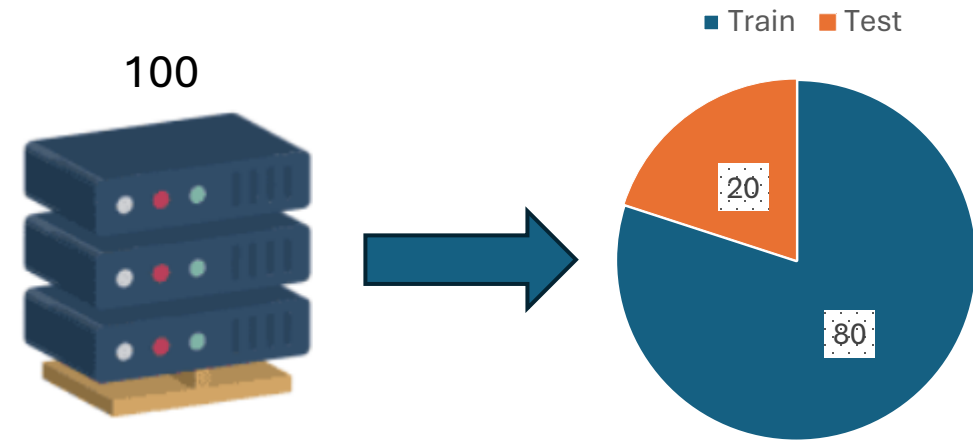
- Diabetic Retinopathy is the leading cause of vision loss globally
- Automated segmentation improves diagnostic speed and accuracy
- Allows doctors to focus on treatment decisions rather than diagnosis

DIABETIC RETINOPATHY

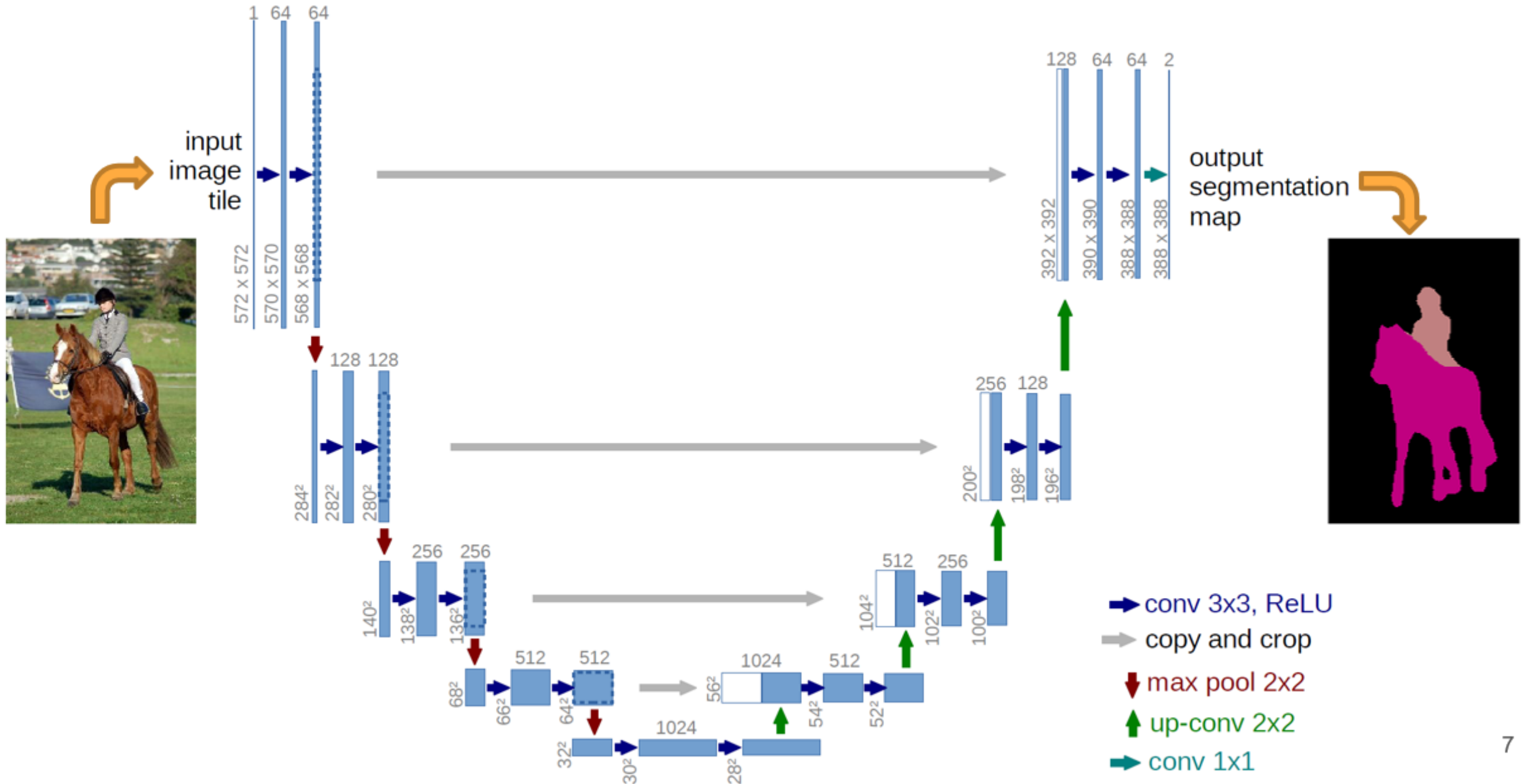


Kaggle Retina Blood Vessel Dataset

- 100 2D images
- The images are portioned but are not classified
- All 100 images were utilized



UNet Convolutional Neural Network (CNN)



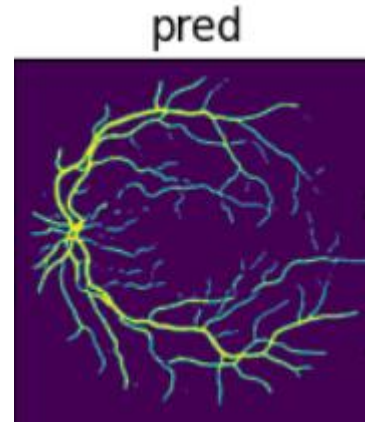
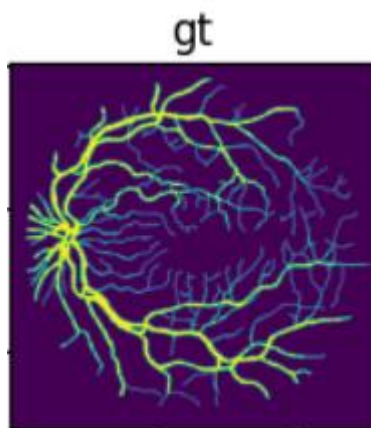
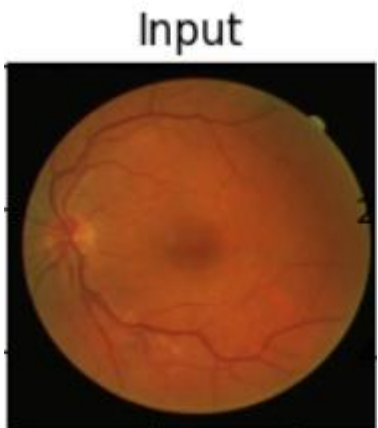
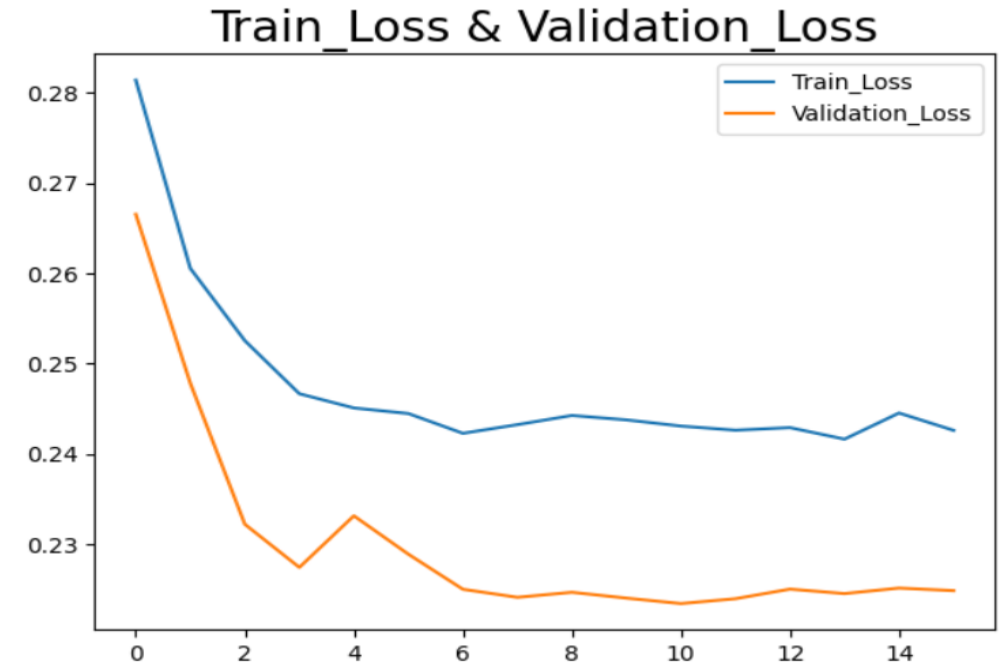
Implementation and results

➤ Training:

- ❑ Training was done on 80 images using 2D UNET algorithm
- ❑ Training was done in 15 epochs

➤ Testing:

- ❑ A dice score of 0.80 was achieved on 20 testing images



Thank you!

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