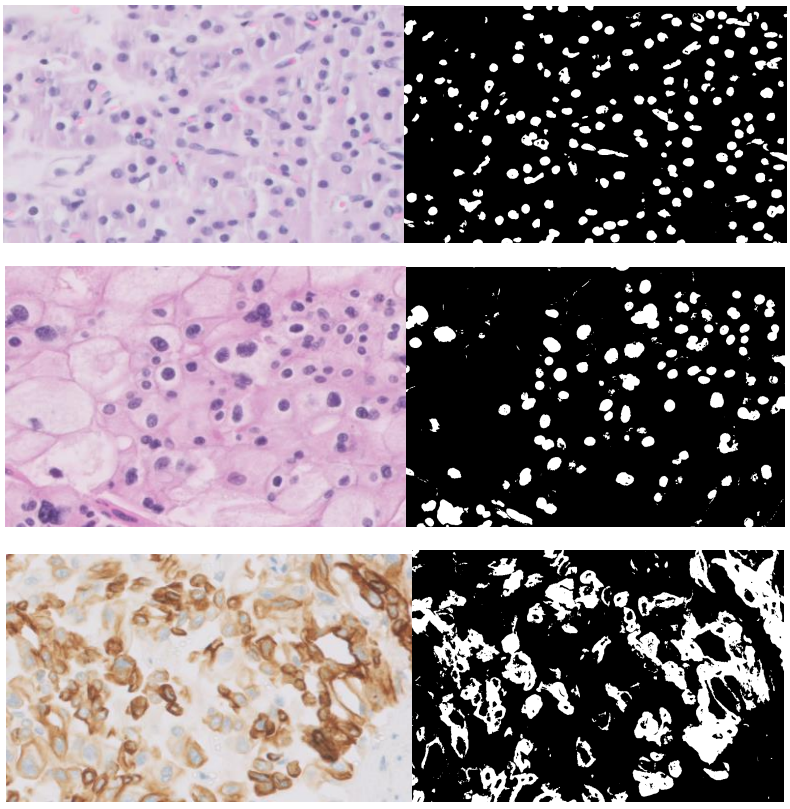
Using UNET for Cells Detection

Preprocessing

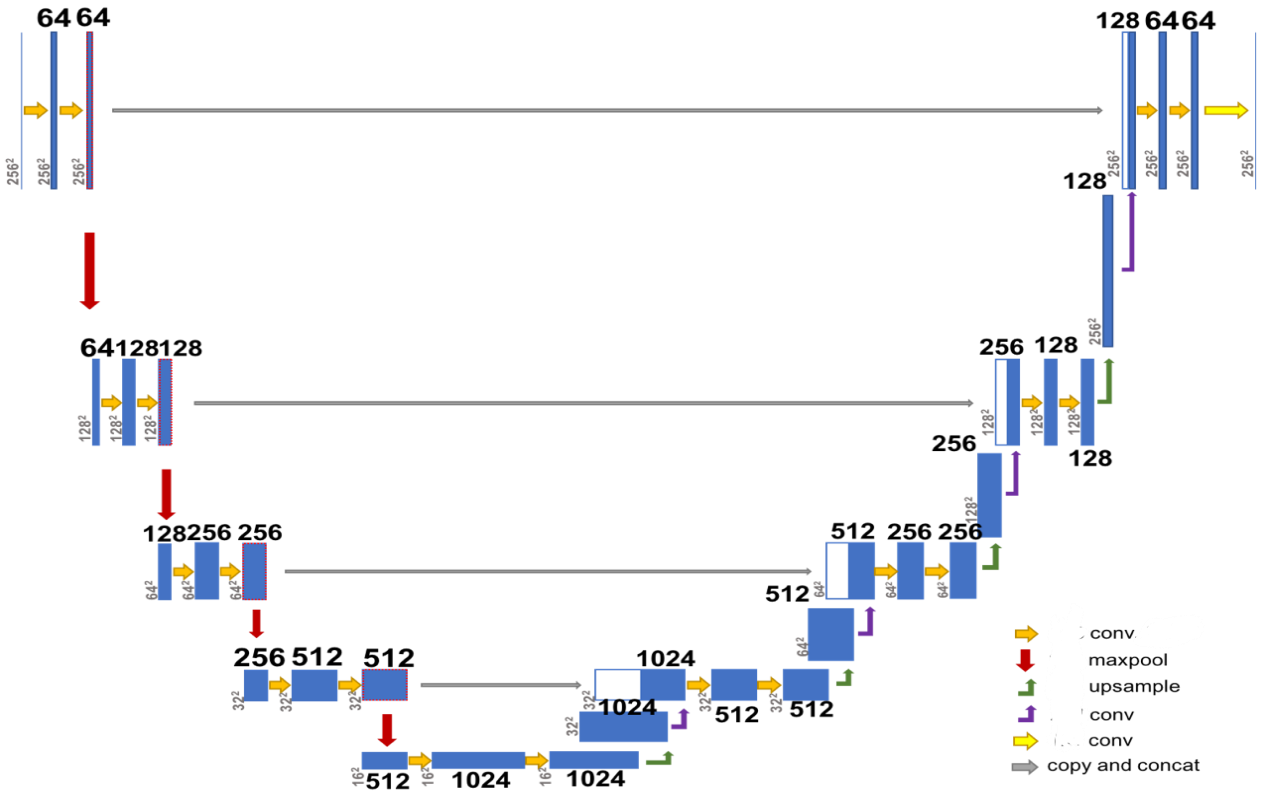
We have collected 600 images from chromophobes, oncocytomas, and annotated cells and matched masks for training and 100 images for testing.

Each binary mask was created with a specific threshold to ensure exact masking of images from chromophobe, oncocytoma, and annotated cells.



UNET model

The input images are resized into 256×256 and are used the following architecture.UNET is implemented with keras.



Path activation	Kernel initializer	padding	Output activation	optimizer	Loss function	Batch size	epochs
Relu	He_normal	Same	sigmoid	Adam	Mean squared error	20	25

The call back technique was used early stopping with the patience of two and monitoring validation loss for saving best model.

You can also open tensorboard in your localhost for more details