Semantic Segmentation

For Self Driving Cars

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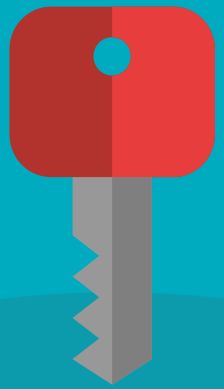
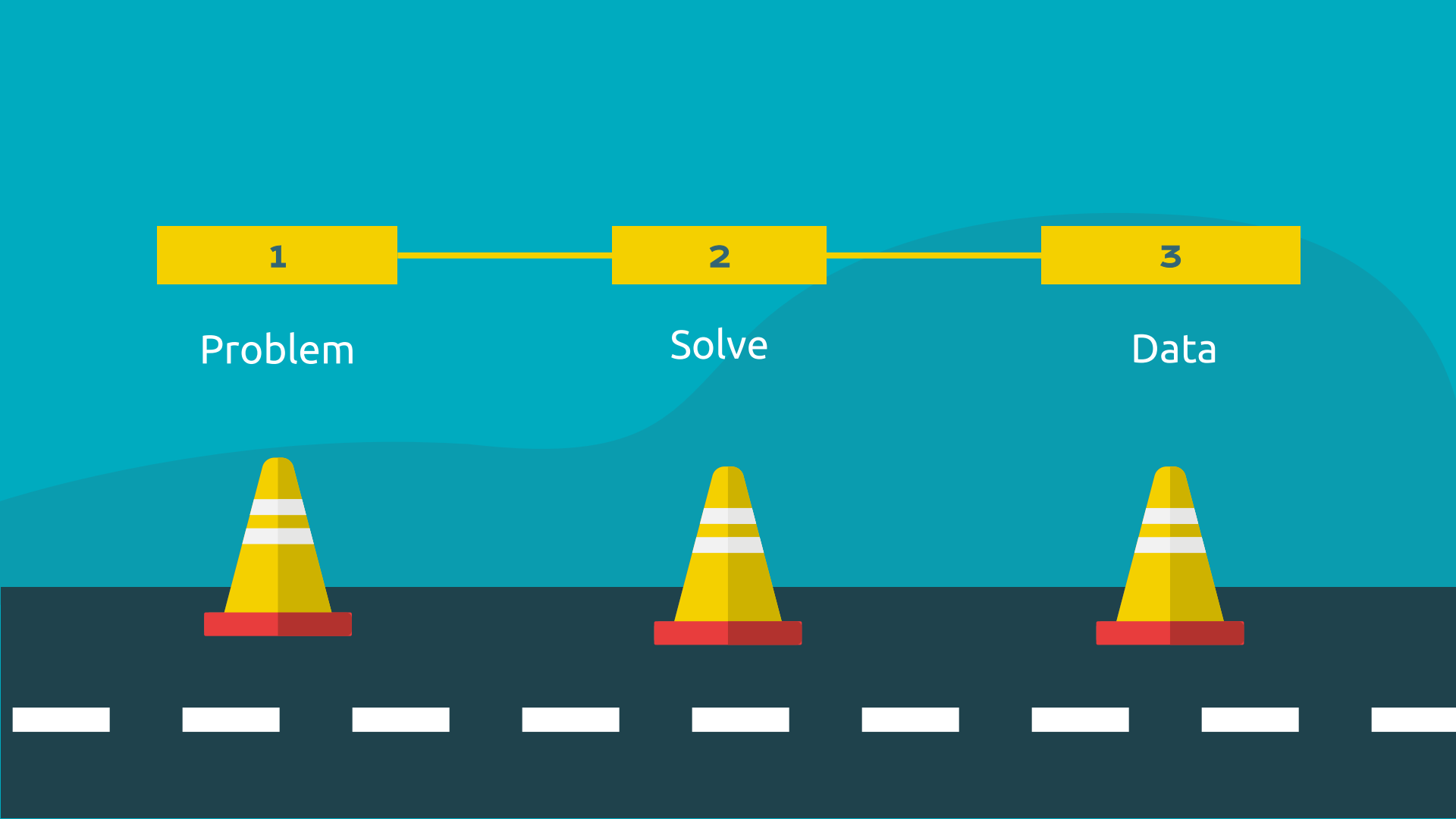
Introduction



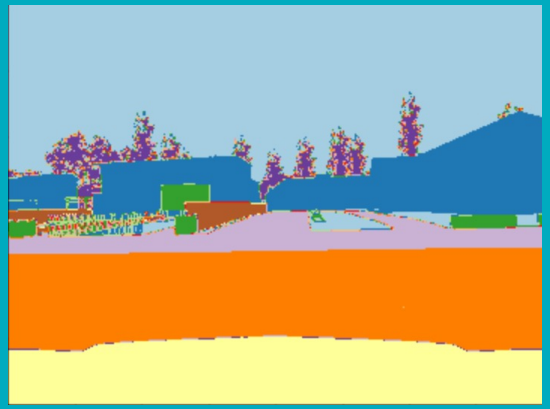
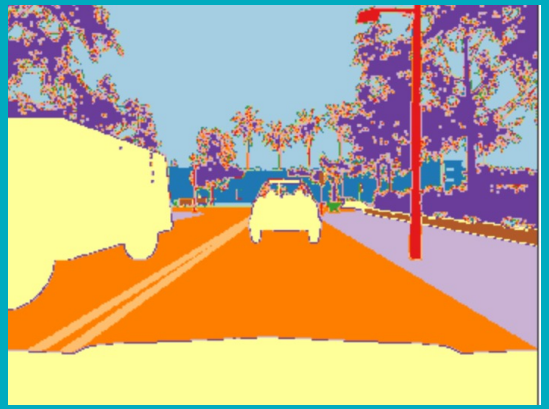
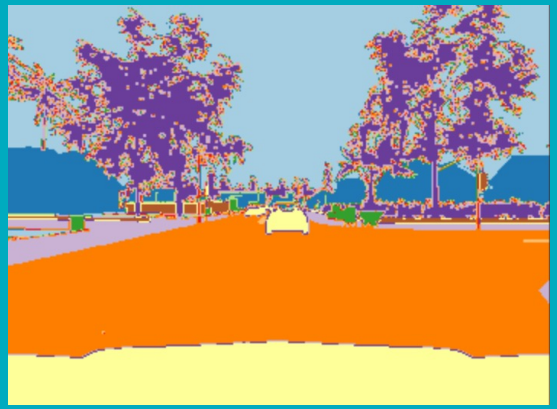

1
2
3
Problem
Solve
Data

02

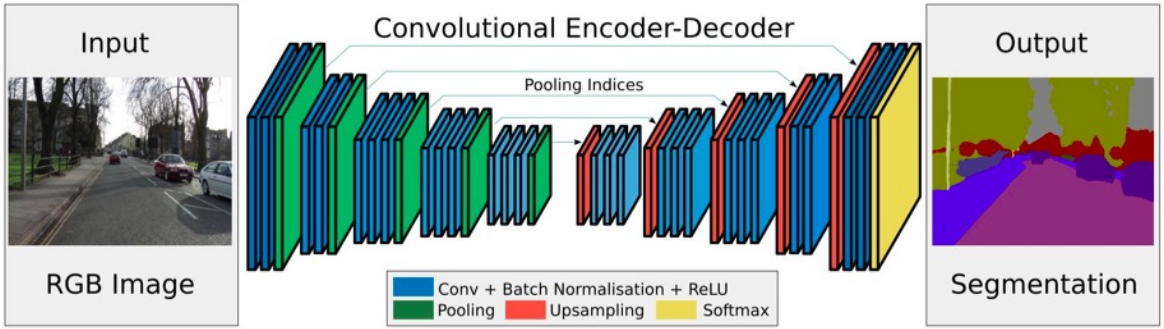
Workflow


Example of Images from Data set

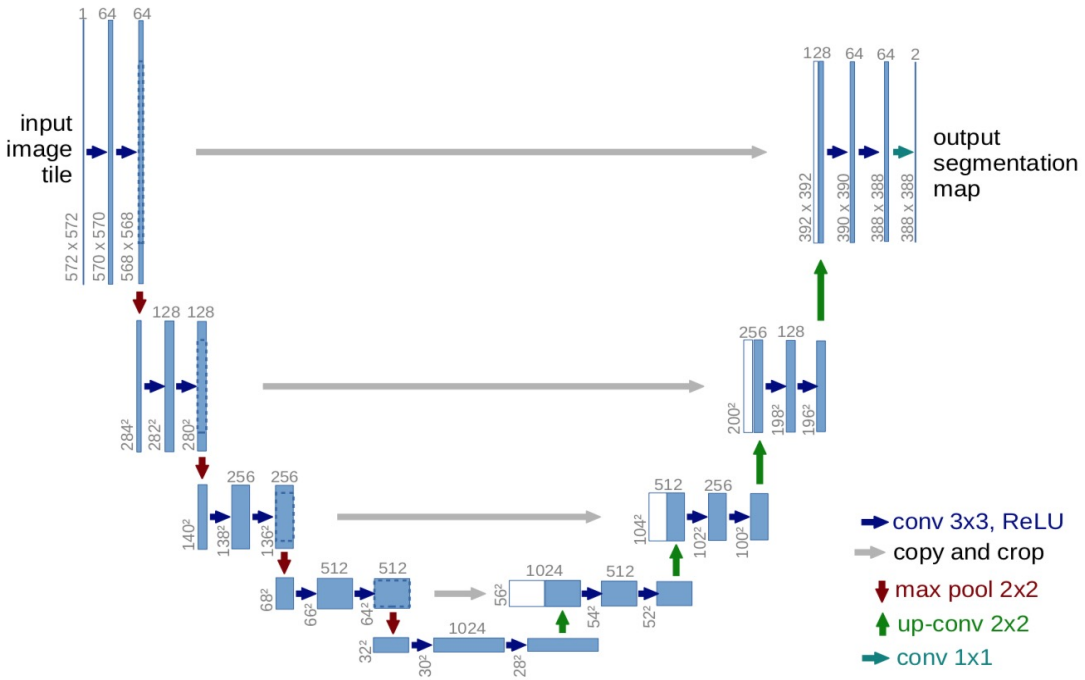


Convolutional Encoder Decoder



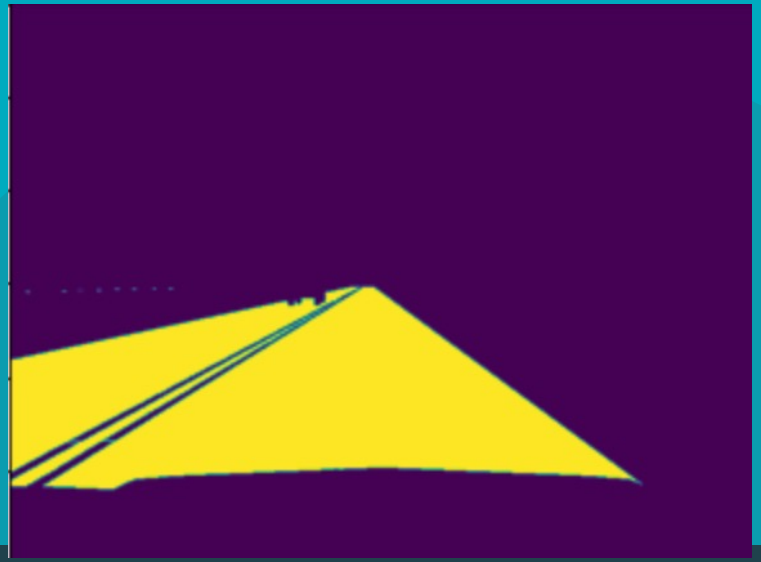
Arcature



U-net

Project Phases

PHASE 1

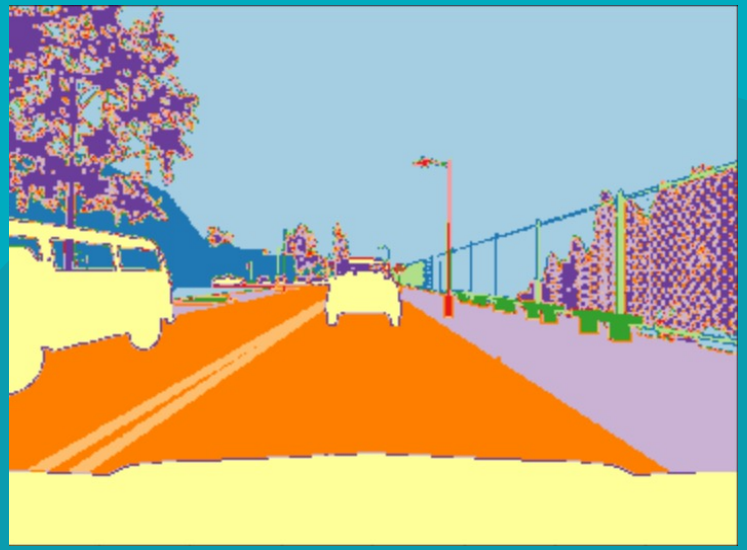


Image

Mask(Actual)

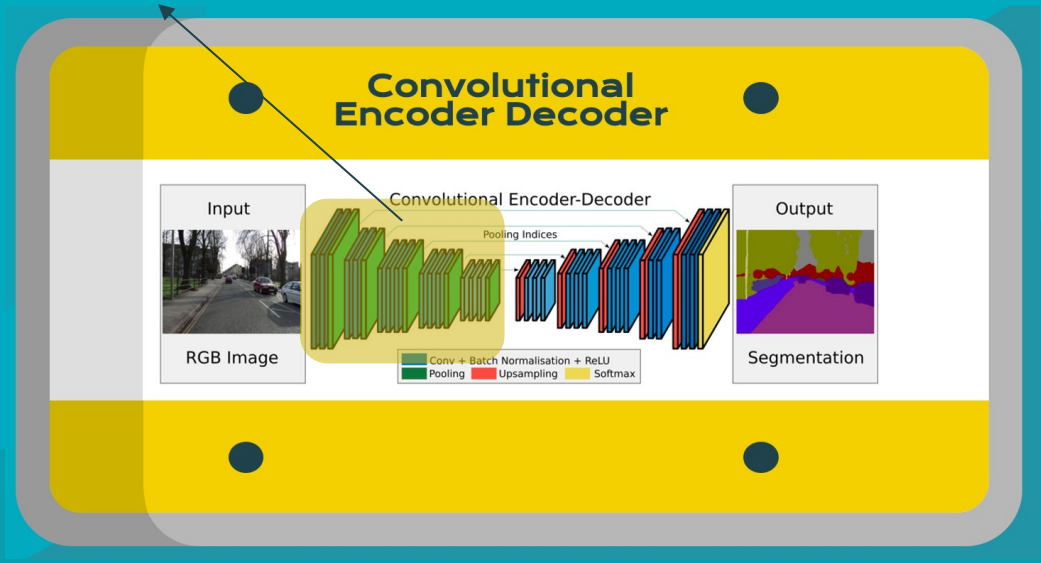
Prediction

PHASE 2



PHASE 3

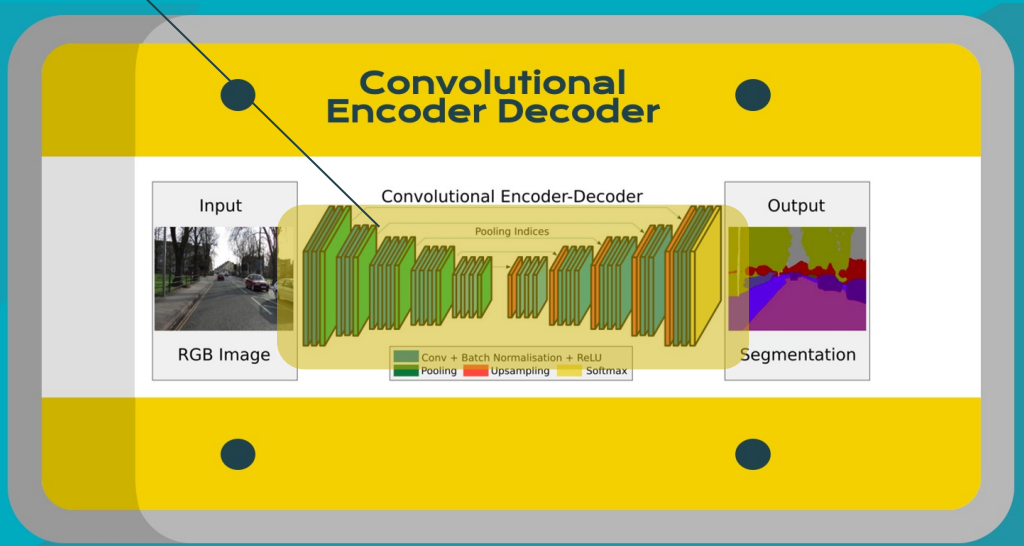
VGG16



Transfer Learning of Encoder

PHASE 4

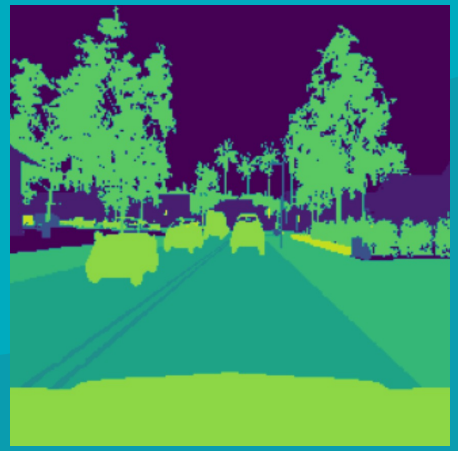
MobileNetV2



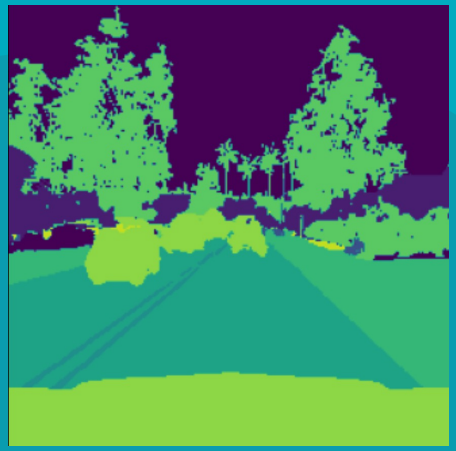
Transfer Learning of Encoder and Decoder

Image

Mask(Actual)

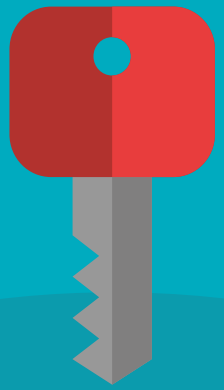


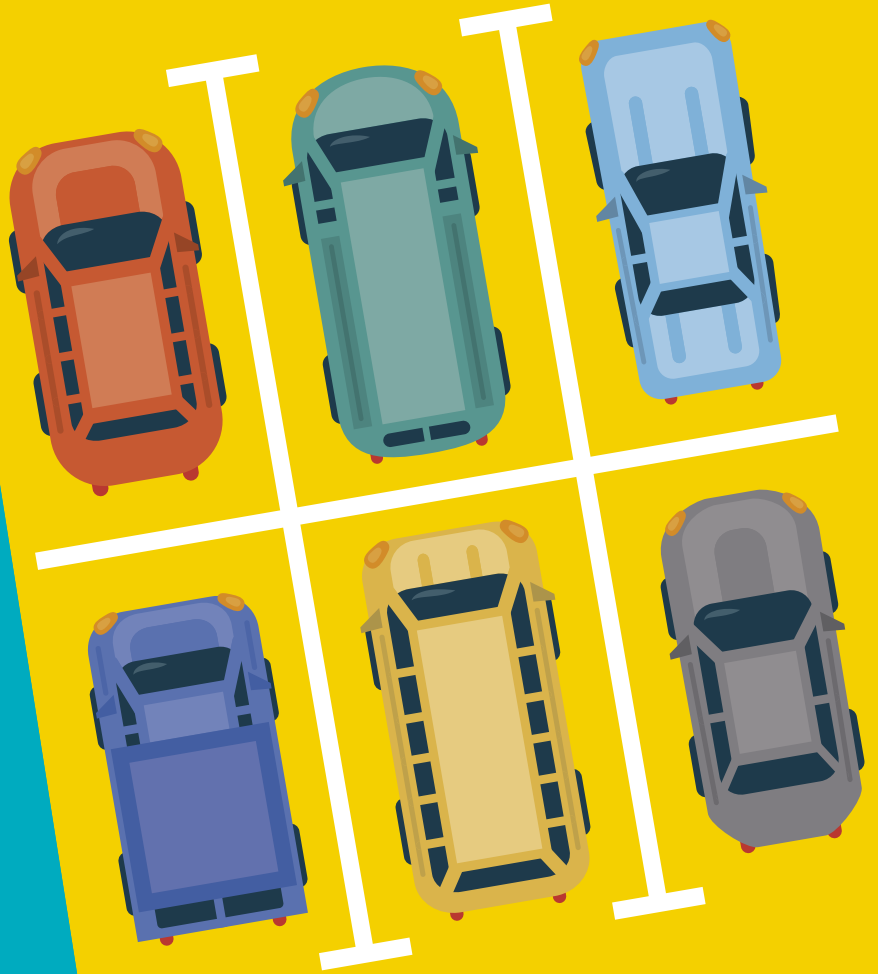
Prediction

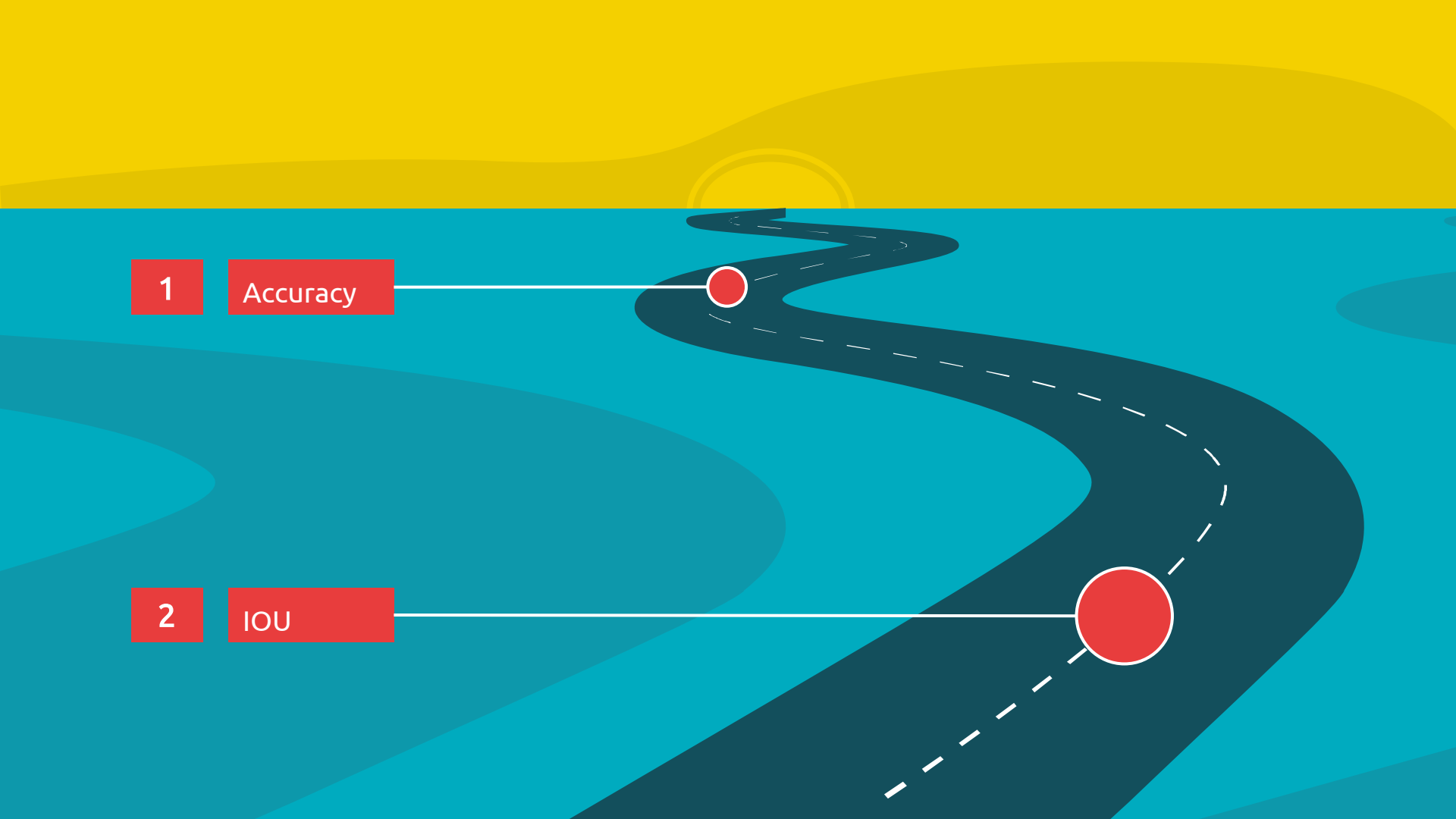


03

Results

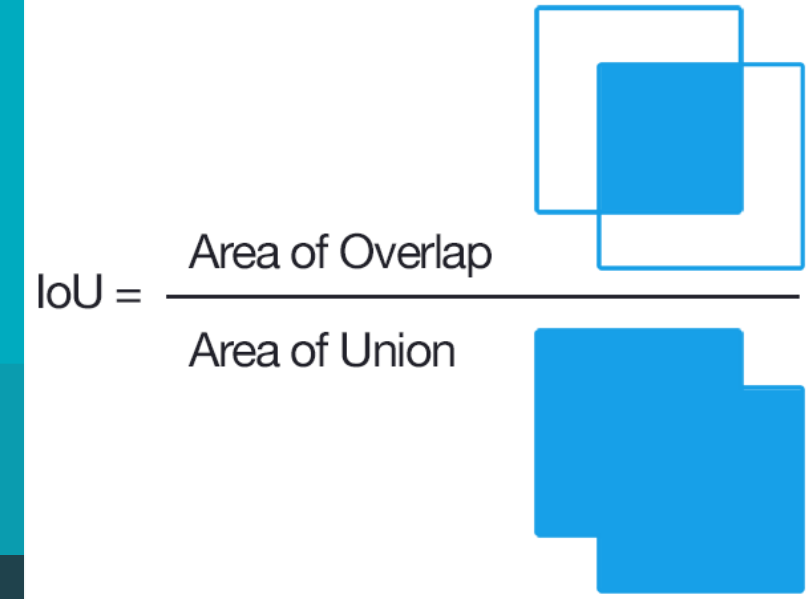


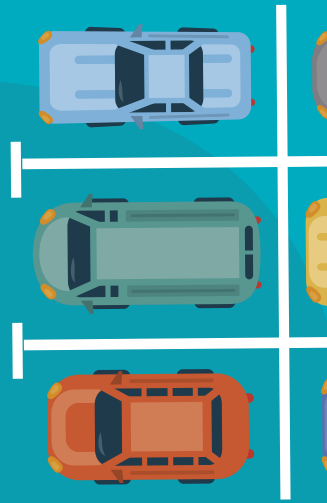



1
Accuracy
2
IOU

Intersection over Union

$$IoU = \frac{\text{Area of Overlap}}{\text{Area of Union}}$$





Evaluation

	PHASE 2	PHASE 3	PHASE 4
Train	0.68	0.69	0.69
Validation	0.68	0.69	0.68
Test	0.70	0.68	0.67

Conclusion

THANKS