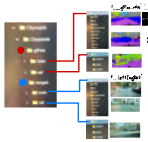
SEMANTIC SEGMENTATION

CityScape.py

Cityscapes (Dataset)



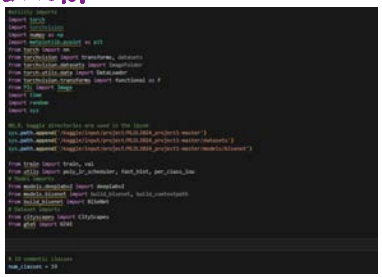
INIZIALIZZAZIONE (DB COSTRUCTOR)

INTERFACCIA DB

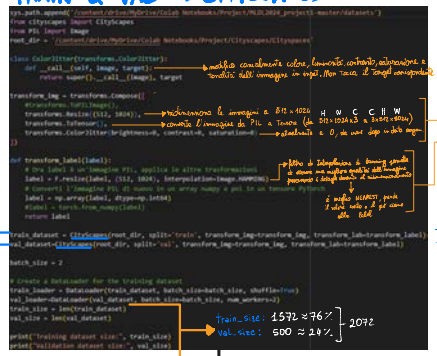
encode_target

decode_target

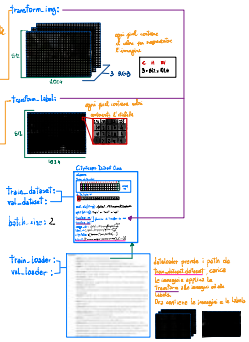
IMPORT



TRAIN & VAL → CITYSCAPES



Train_size: 1572 ≈ 76%
Val_size: 500 ≈ 24%
2072



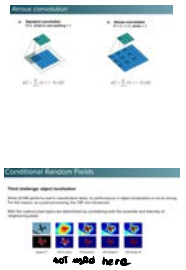
DEEPLAB v2

P100

DEEPLAB v2

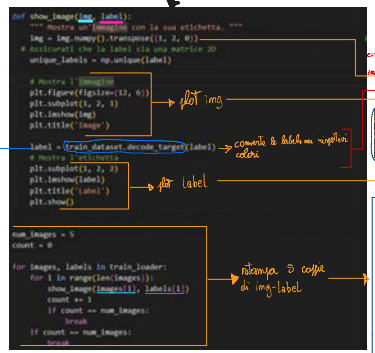
PRINCIPAL LAYERS:
- standard conv
- atrous conv (dilatation > 0)
- atrous spacial pyramid Pooling
- Max Pool
- batch_normalization
- ReLU, sigmoid

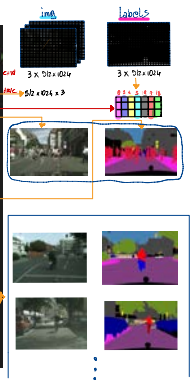
Backbone: ResNet



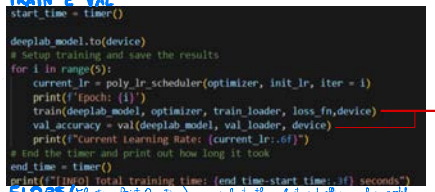
not made here

PLOT DI 5 COPPIE img-label





TRAIN E VAL



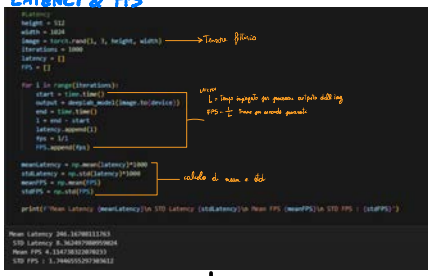
mIoU 56.99%

FLOPS (Floating Point Operations)

FLOPS 0.375T

PARAMS 43.9 M

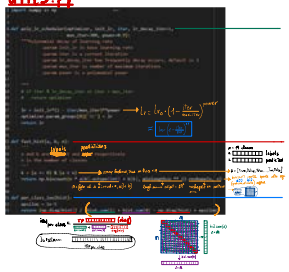
LATENCY & FPS

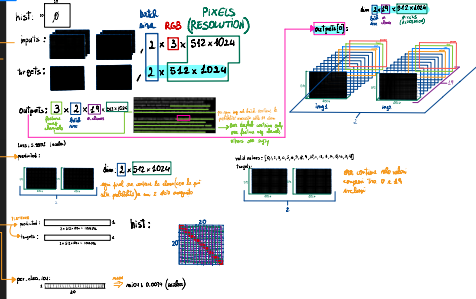


LATENCY 246.17ms

train.py

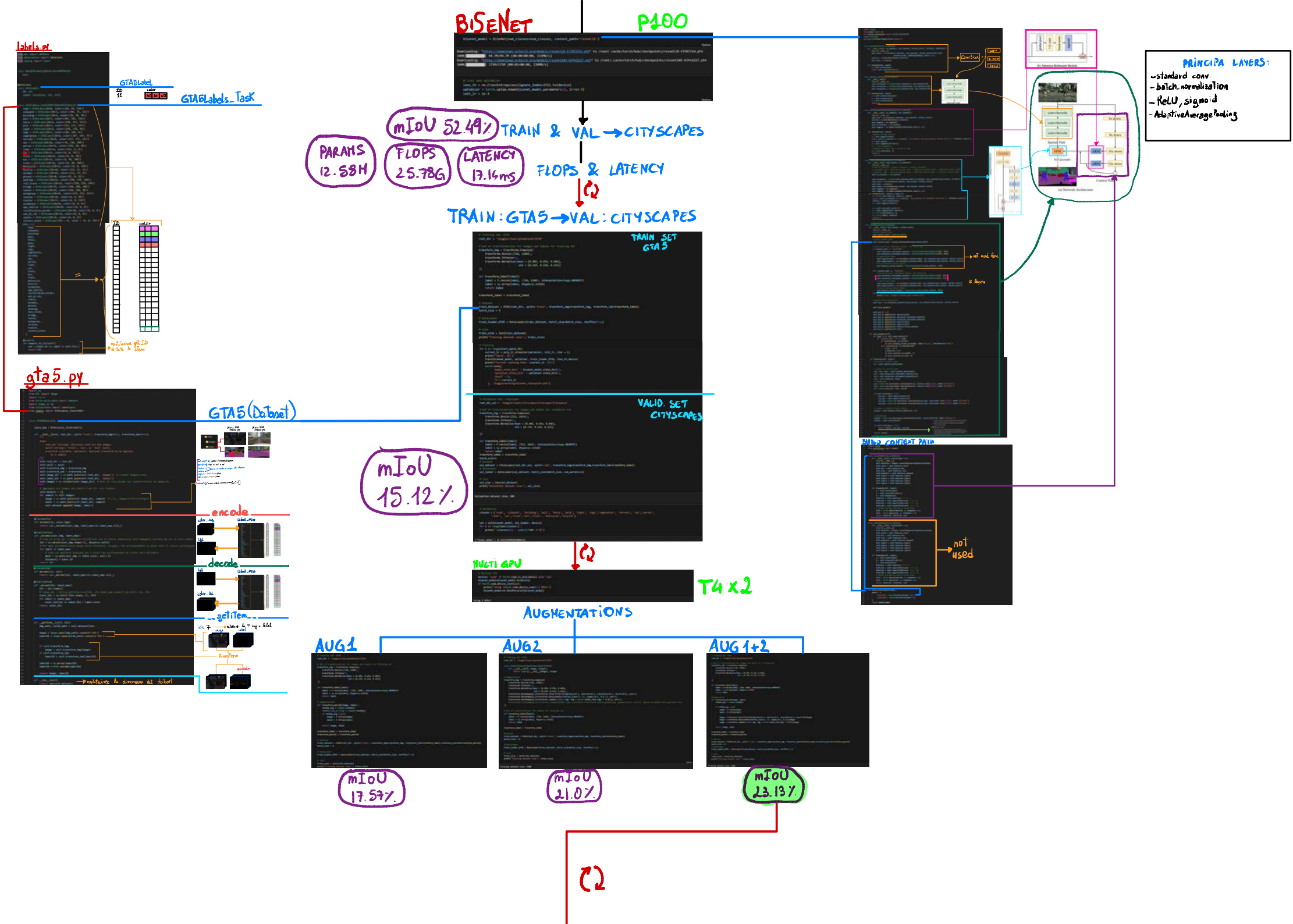
utils.py





val

uguale a train ma senza backpropagation


BISENET
P100
labels.py
GTA5Label
GTA5Labels_Task
mIoU 52.49%
TRAIN & VAL → CITYSCAPES
PARAMS 12.58M
FLOPS 25.78G
LATENCY 17.16ms
FLOPS & LATENCY
TRAIN: GTA5 → VAL: CITYSCAPES
TRAIN SET GTA5
VALID. SET CITYSCAPES
gta5.py
GTA5(Dataset)
mIoU 15.12%
encode
decode
__getitem__
MULTI GPU
T4 x2
AUGMENTATIONS
AUG1
AUG2
AUG1+2
mIoU 17.57%
mIoU 21.0%
mIoU 23.13%
PRINCIPA LAYERS:
-standard conv.
-batch_normalization
-ReLU, sigmoid
-AdaptiveAveragePooling
BUILD CONTEXT PATH
not used

FDA

low_freq_mutate_np

FDA_source_to_target_np

FDA_Transform

Train_FDA

TRAINING

VALIDATION

mIoU 26.4 %

DACS

net model

GTA Transform

Cityscapes Transform

DATASETS

Train_DACS

TRAINING

VALIDATION

mIoU 32.12 %