Retraining a Model in eIQ Portal

This part will show how to use Vela tool to compile the TFLite model through command lines.

1. Open the elQ Toolkit Command Line



1. After downloading the dataset associated with this hands-on, use the DeepView Importer command-lines tool to import VOC datasets to create an eigp project. An example of importing the VOC dataset can look as follows:

> deepview-importer -group train -project VOC_Dataset.eiqp VOCtrainval_14-Jul-2008.tar

Analyzing Dat	aset	
100%	(541/550 MB, 3003.666 MB/s)	[0s:0s]
Parsing 5096	Annotations	
100%	(5096/5096, 13853 it/s)	[0s:0s]
Importing 333	6 Images	
100%	(541/550 MB, 124.286 MB/s)	[4s:0s]
Successfully	imported dataset in 15.9572846s	
> deepview-im	porter -group test -project VOC_Dataset.eiqp VOCtest_06-Nov-2007.ta	r
Analyzing Dat	aset	
100%	(422/430 MB, 2802.675 MB/s)	[0s:0s]
Parsing 4952	Annotations	
100%	(4952/4952, 14542 it/s)	[0s:0s]
Importing 342	1 Images	
100%	(422/430 MB, 116.536 MB/s)	[3s:0s]
Successfully	imported dataset in 13.6228567s	

2. Open the created "VOC_Dataset.eiqp" project. (You might need to click "Open Project" and select the file):

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			el	$\mathbf{)}$					
	-	CREATE PROJECT	×	OPEN F	PROJECT	~			
				93_CAS_tra	ining\VOC_Dataset.e	iqp			
		MODEL TOOL		olkit_v1.5.2	\flowers_mobilenet.e	iqp			

3. Click the "SELECT MODEL" button to select models you want to use.



4. Then select "Detection -> Accuracy -> NPU", set the training parameters of the model as shown in picture below and "START TRAINING" the model.

elQ Portal VOC_Dataset	plug-ins remote devices workspaces marketplace help — 🗆 🗙
Model Name	
detection-precision-npu-2023-01-12	Trainer
TRAINER SETTINGS	Metric Loss Images
Weight Initialization imagenet v	
Input Size 320,320,3 V	Steps Epochs Statt Step Elits Step Statt Step
Learning Rate 0.001	
	09-
Learning Rate Decay	
Epochs 1	08-
Decay Rate ⑦ 0.9	07-
Linear Decay	
	()-
Batch Size 10	58-
Epochs To Train 25	
Easthle OAT	(A-
Enable Pruning	03-
Enable Clustering	45
MODEL TOOL	81-
START TRAINING	
DEEPVIEW MODELPACK ADD-ON	Sten
	Train Mean Average Precision
< SELECT MODEL VALIDATE >	Evaluation Mean Average Precision

5.Train the model until the validation accuracy on the test set is not increasing. Click the "VALIDATE" button to validate the trained model.



6. Click "VALIDATE" to get the validation precision of the trained model.

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Target Name	Default																						
Target URI	127.0.0.1:10	Validate																					
												Confusion Matrix Per Class Metric											
Accuracy	48.13%																						
Samples Count	3421																						
			Background -																				
Model Upload	167ms		aeroplane -				_										_				_		
Image Decode	Ons		bicycle -		_												_	_			_	_	
Mandal Immut	0		bird -	-	_		-	-		-			_	-		-	-	-			-	_	
Model input	Uns		bottle -		_	-									-		-	-	+ +		-	-	
Model Evaluation	18ms		bus -			-											-	-				_	
			car-														_						
			cat-				-											-			_	_	
Total Overhead	88s	Inal	chair -			-	-	_			_					_	-	-	+			_	
Total Validation	151s	Act	diningtable -				-						_	-			-		+ +			-	
		-	dog -																				
MODE	L TOOL		horse -																				
			motorbike -		_	_	-				_										_	_	
VALIDATIO	DN TARGET		person -		-	-	-								-			_			-	_	
			pottedpiant -	-			-		-	_		_					-					-	
VALI	IDATE		sofa -				-			-	_		_	-	-		-	-			-	-	
			train -																				
DEEPVIEW DEVPACK ADD-ON			tvmonitor -		, I.,	1,	Ι.,			,		,	_		, 1		Ι,	1	1,1	-			
				Backon	ang grad and	4006 A	a qual	home	Aug.	City.	CRI	chair	00 ₈₉	aning	2010 alog	Aonae	A skolor	han Pon	opers velocitie	4069	train	Valuator	
< TRAINER	DEPLOY >											P	redicte	d									

7. Then click the "DEPLOY" button and choose the format of export model. Select "EXPORT MODEL" to Keras format. Change the name of the model to "example.h5".

elQ Portal VOC_Dataset		PLUG-INS	REMOTE DEVICES	WORKSPACES	MARKETPLACE	HELP	-	ø	×
EXPORT SETTINGS									
Export File Type		Export	Model						
Keras									
Export Quantized Model	Project		VOC_Dataset						
	Model Name		detection-precision 55.524Z_in-uint8_	n-npu-2023-01- out-float32_char	11T08-00- nnel_ptq.tflite (2)			
	Task		detection						
	Tune		ssd_mobilenet_v3						
	Labels		aeroplane, bicycle, chair, cow, diningta person, pottedplan	bird, boat, bottle able, dog, horse, t, sheep, sofa, tr	e, bus, car, cat, motorbike, ain, tvmonitor				
	Epochs Trained		21						
	Training Time		12921s						
	Training Accuracy		-						
DEPLOY MODEL	Validation Accuracy		-						
EXPORT MODEL									
DEEPVIEW VISIONPACK									
< VALIDATION									