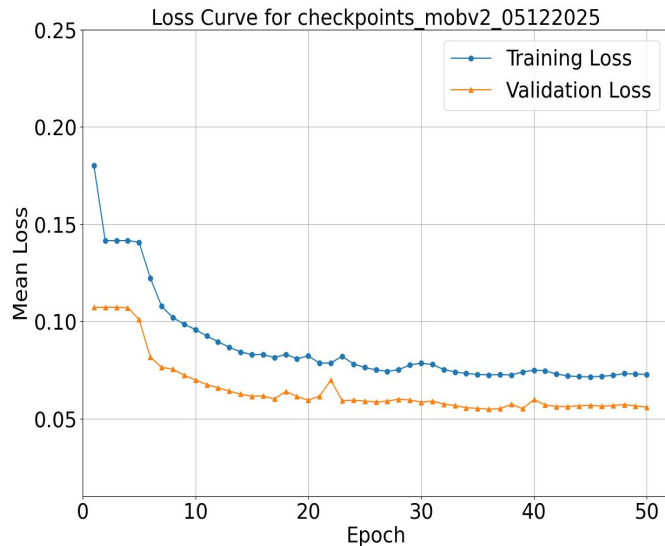
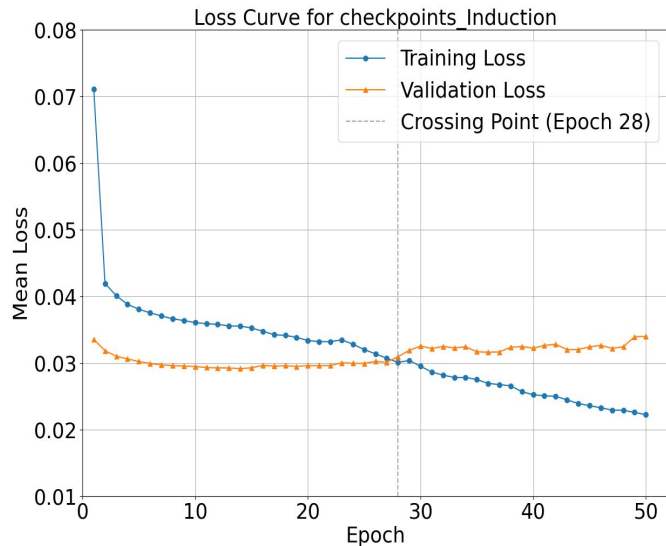




Status report on **DNNROI sigproc**

Hokyeong Nam
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WCT - New DNN approach



- Haiwang's UNet → MobileNetV2
 - Train loss: $\sim 0.03 \rightarrow \sim 0.072$ (Epoch 50)
- The performance in WCT signal processing chain should be checked

Memory and Time consumption

PD-HD Run		VmPeak (MB)	RSS Peak (MB)	Elapsed Time (s)
26763 - 0008	SP	3,680.78	2,251.37	77.36
	MobNetV2	8839.19	6563.59	133.83
27673 - 0000	SP	3,174.17	1,742.09	55.74
	MobNetV2	6329.87	4056.22	84.13
27673 - 0001	SP	3,176	1,745.21	56.72
	MobNetV2	6321.81	4163.92	111.77
27673 - 0002	SP	3,164.97	1,742.46	55.61
	MobNetV2	6512.53	4270.59	82.91
28588 - 0019	SP	3,157.36	1,725.07	52.93
	MobNetV2	6093.46	3825.43	73.86

- Signal Processing only
- Traditional ROI vs MobileNetV2

Metric	SP (avg.)	DNN SP (avg.)	Ratio (DNN SP/SP)
RSS Peak	1841.24 MB	4575.95 MB	2.49x
Elapsed	59.67 s	97.3 s	1.63x

- Change in
 - Memory usage ratio: 4.02 $\rightarrow$ 2.49
 - Elapsed time ratio: 2.60 $\rightarrow$ 1.63

- For DNN SP,
 - the FHICL file only save the dnn related waveform in the output file

Memory and Time consumption

PD-HD Run		VmPeak (MB)	RSS Peak (MB)	Elapsed Time (s)
26763 - 0008	MobNetV2	8839.19	6563.59	133.83
	UNet	11395.80	9128.28	184.71
27673 - 0000	MobNetV2	6329.87	4056.22	84.13
	UNet	9213.96	6945.05	137.48
27673 - 0001	MobNetV2	6321.81	4163.92	111.77
	UNet	9285.25	7014.49	165.44
27673 - 0002	MobNetV2	6512.53	4270.59	82.91
	UNet	9396.65	7127.31	125.62
28588 - 0019	MobNetV2	6093.46	3825.43	73.86
	UNet	9060.37	6783.75	163.30

- Signal Processing only
- MobileNetV2 vs UNet

Metric	MobNetV2 (avg.)	UNet (avg.)	Ratio (DNN SP/SP)
RSS Peak	7,399.78 MB	4575.95 MB	1.62x
Elapsed	155.31 s	97.3 s	1.60x

- For DNN SP, ○ the FHICL file only save the dnn related waveform in the output file

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