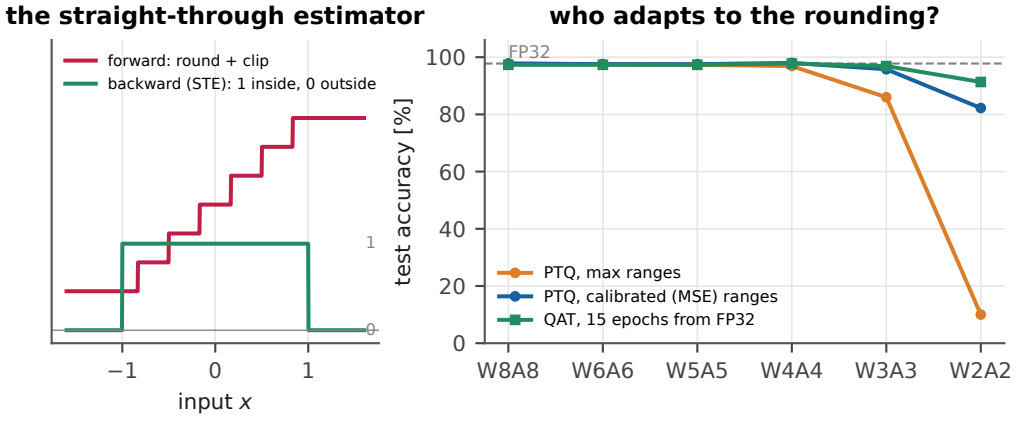

the straight-through estimator
forward: round + clip
backward (STE): 1 inside, 0 outside
1
0
−1
0
1
input x
who adapts to the rounding?
FP32
test accuracy [%]
100
80
60
40
20
0
PTQ, max ranges
PTQ, calibrated (MSE) ranges
QAT, 15 epochs from FP32
W8A8
W6A6
W5A5
W4A4
W3A3
W2A2