

| |
|-------|
| -3.39 |
| 1.78 |
| 10.87 |
| -2.22 |
| 10.9 |
| 1.12 |
| -32.1 |
| 12.5 |

Original
Gradient (g)

| $sign(g)$ | | | | | | | |
|-----------|---|---|----|---|---|----|---|
| -1 | 1 | 1 | -1 | 1 | 1 | -1 | 1 |

$sign(g_4)$

Let $0 \leq l < s = 4$

g_4

$$\tilde{g}_4 = Q_4(g_4) = -38.0062 * \xi_4(|g_4|, ||g||_2) = 0$$

$||g||_2$

$$\frac{|g_4|}{||g||_2} = 0.0584,$$

$$\xi_4(|g_4|, ||g||_2) = \begin{cases} \frac{1}{4} & \text{with probability } p_i = 0.2336, \\ 0 & \text{with probability } 1 - p_i = 0.7664. \end{cases}$$

