Performance uplift of CM85 vs CM7 and CM55

Traditional & ML performance (%)

Y-axis: ML performance (%) — 50, 100, 150, 200, 250, 300, 350, 400, 450

X-axis: Traditional performance (%) — 50, 100, 150, 200

- M85 (green) ≈ (180, 400)
- M55 (blue) ≈ (100, 300)
- M7 (orange) ≈ (135, 100)

RENESAS
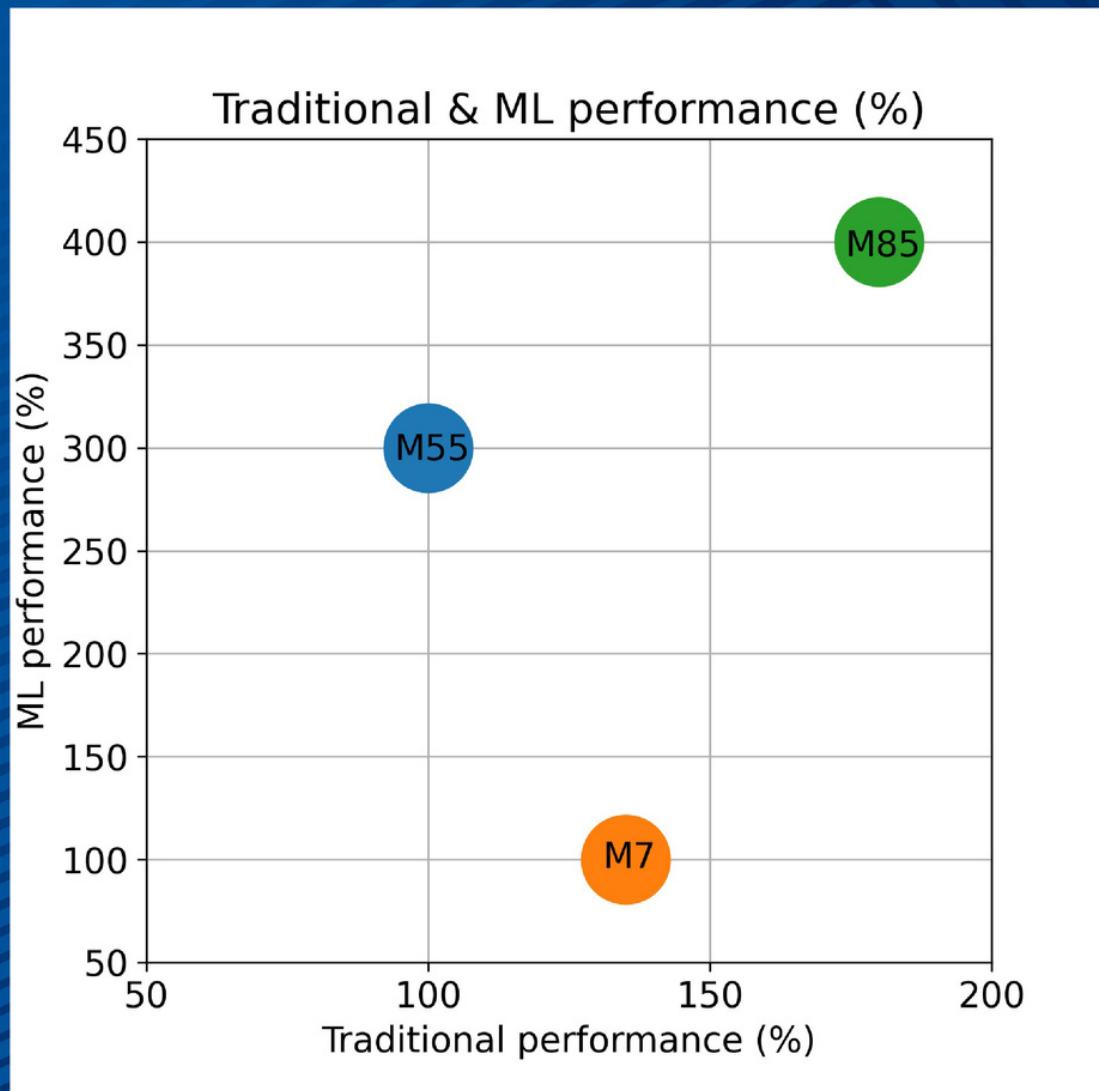
Benchmark performance for MVE vs non-MVE aware devices

RENESAS
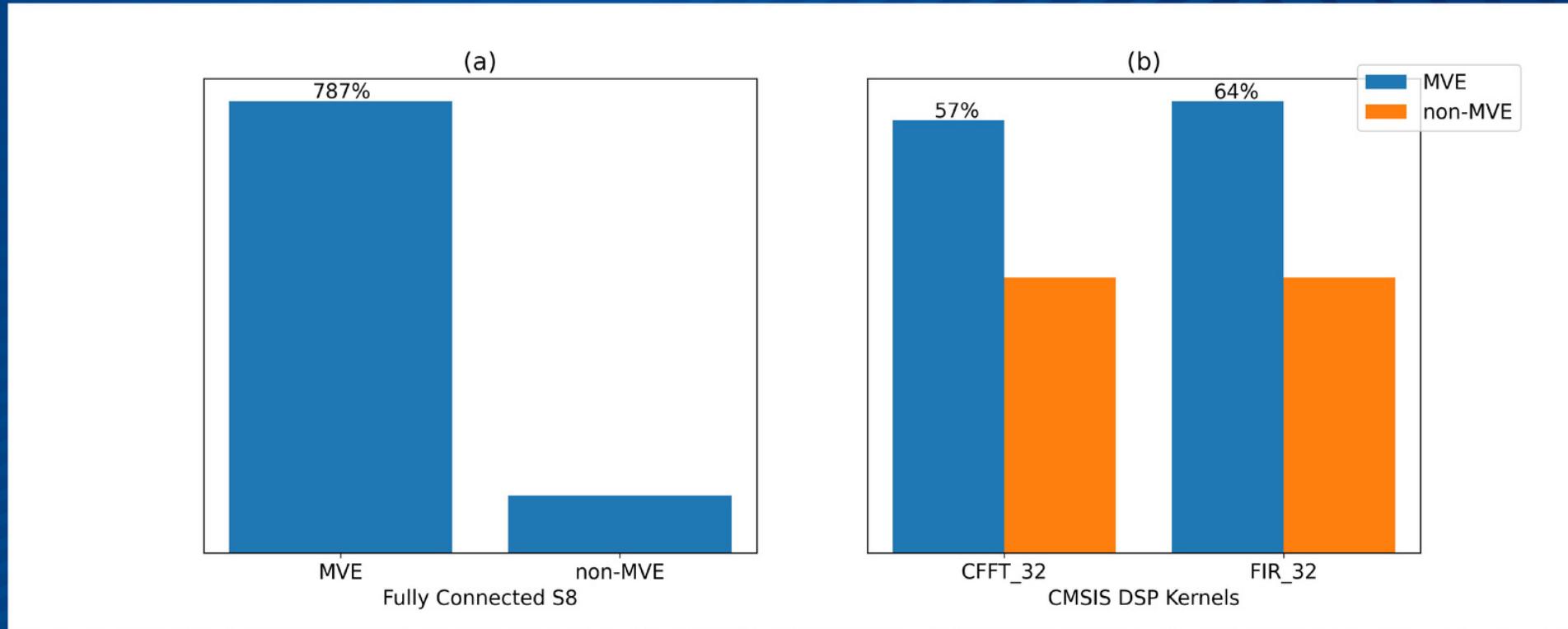
Benchmark results for Cortex-M85 person detection demo

Cycles Comparison of Arm Cortex Devices

Legend:
- PlumerAI
- TFMicro CMSIS-NN

Y-axis: Cycles (Mcycles), 0 to 400

X-axis (Devices): CM33 160 MHz, CM4 120 MHz, CM7 280 MHz, CM85 480 MHz, CM85 480 MHz (MVE disabled)

Annotations: X3.37, X2.33, X1.16, X1.13

RENESAS
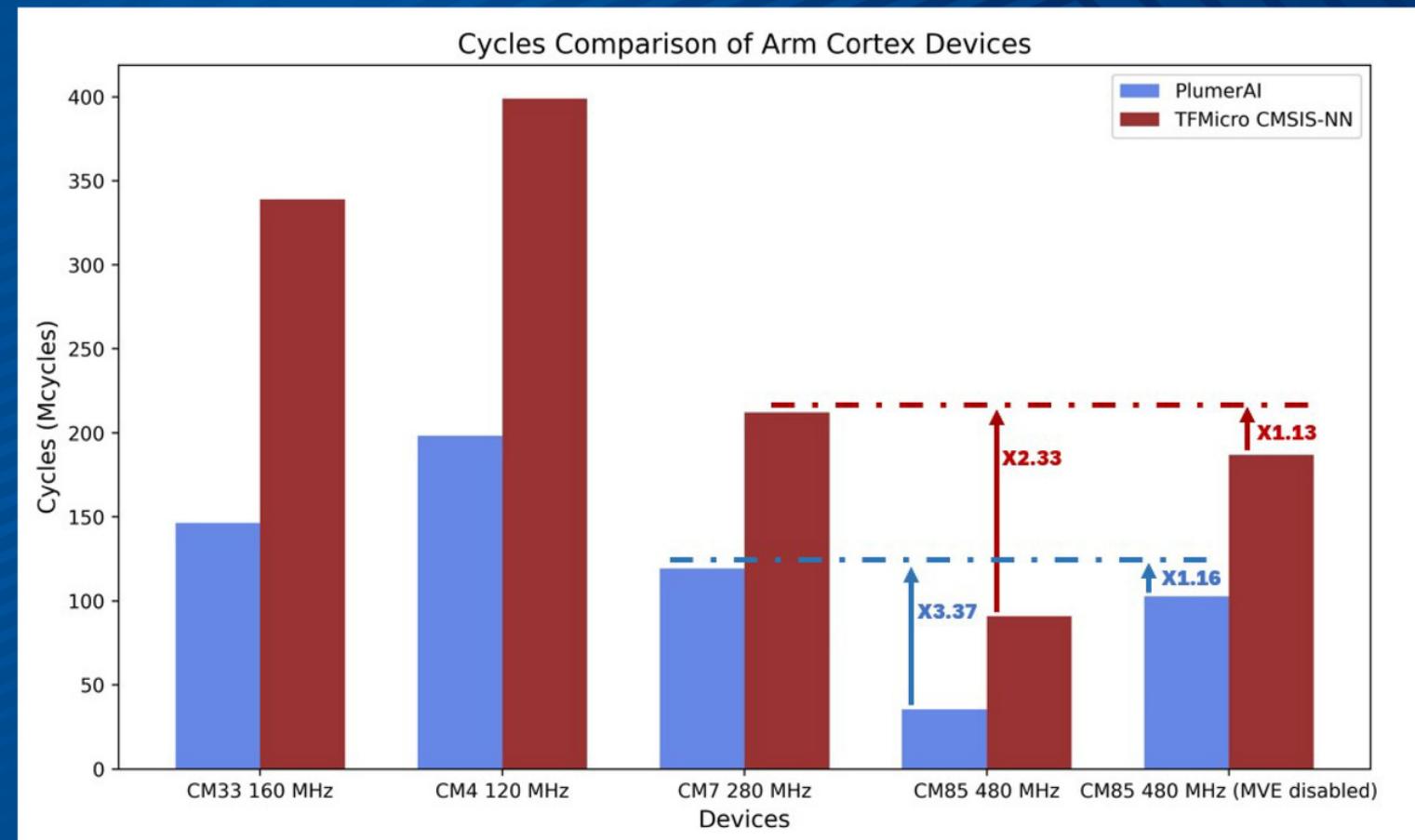
Motor failure demo application workflow
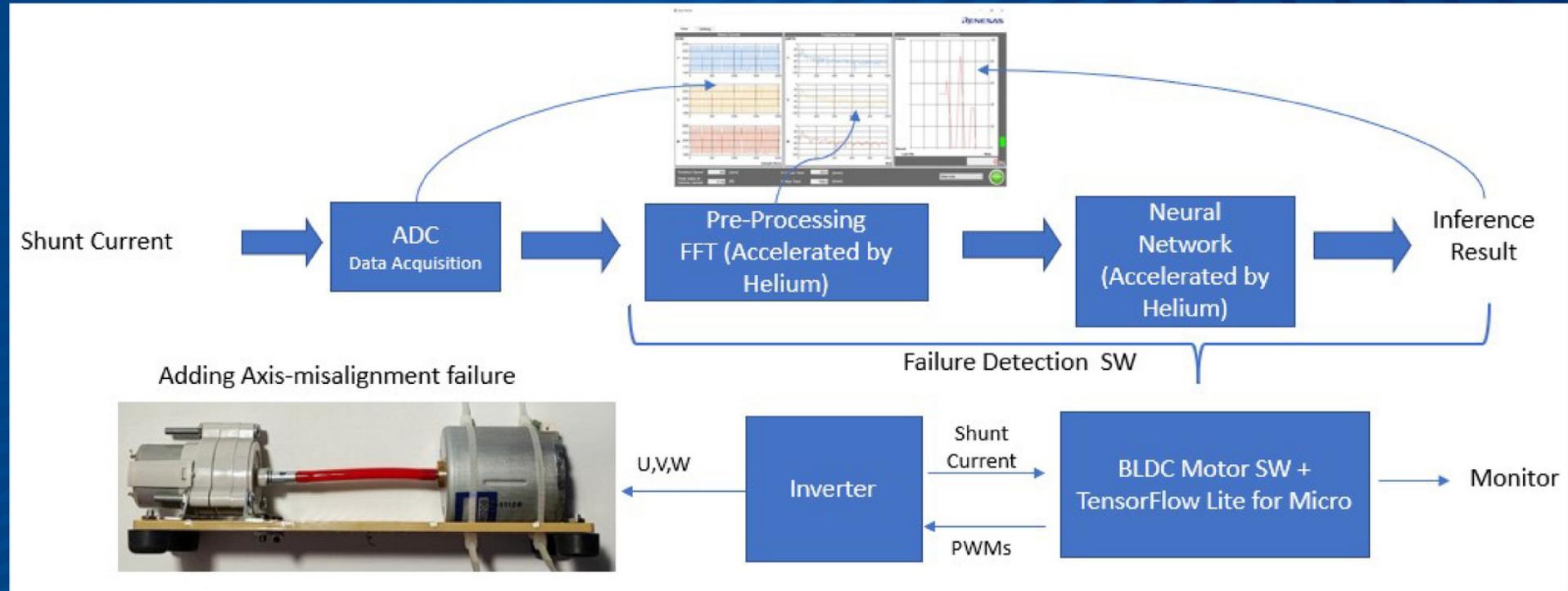
Real silicon cycle performance of Cortex-M7 core vs Cortex-M85 core with & without Helium