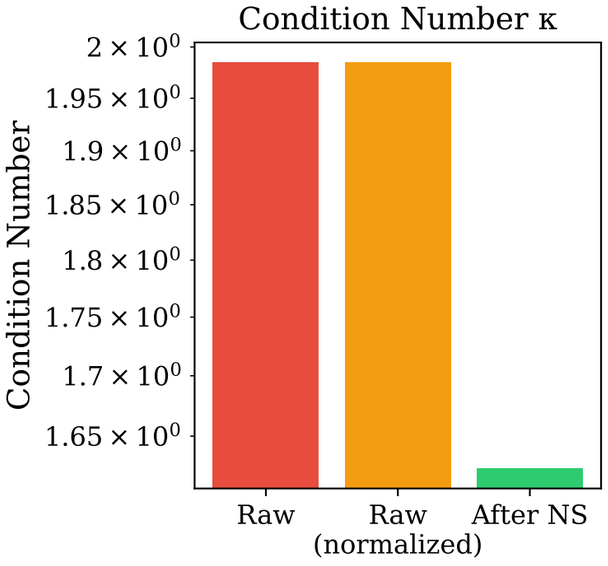
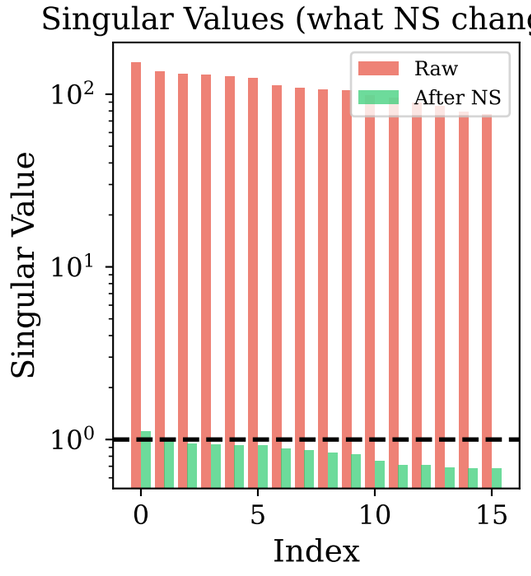
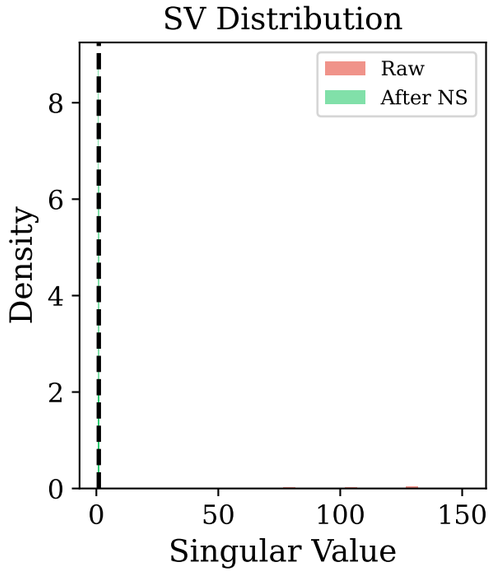
Understanding Newton-Schulz: What It Does vs. What It Doesn't





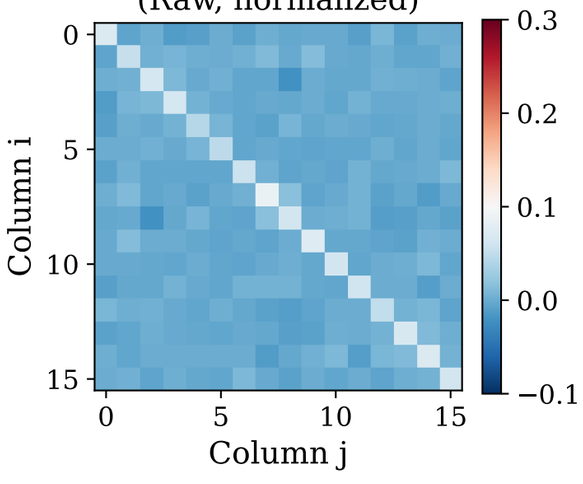


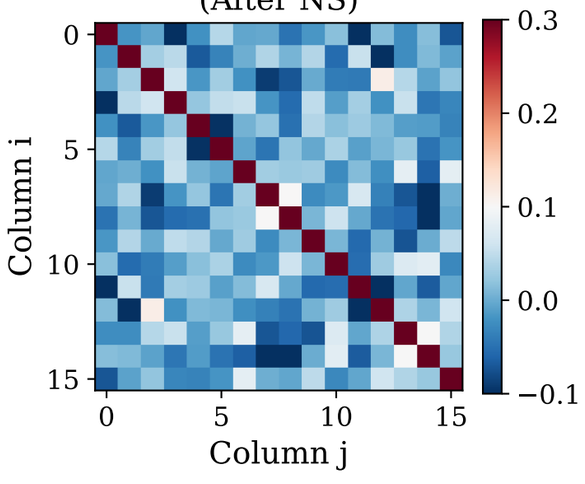
✅ NS Reduces Condition Number

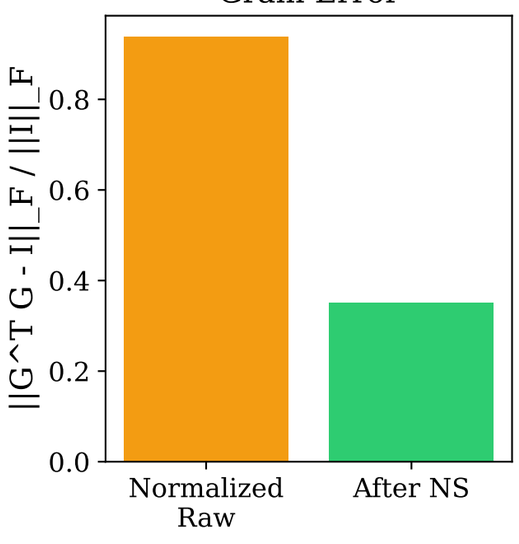
Before NS:
κ = 2

↓ 1× reduction

After NS:
κ = 1.6







❌ Gram Error Not the Right Metric

Gram error stays similar because both matrices are normalized by ||G||_F

NS equalizes singular values, not column norms